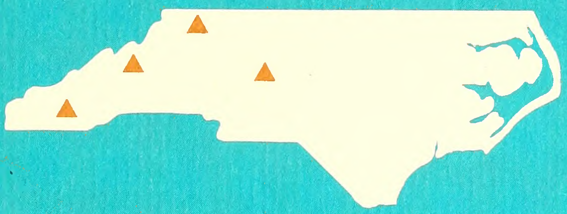

Collected Papers on the Archaeology of North Carolina

Joseph B. Mountjoy, Editor

North Carolina Archaeological Council
Publication Number 19
1982

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EDITOR'S PREFACE

This volume of Collected Papers on the Archaeology of North Carolina is the result of my attempts as Editor of the North Carolina Archaeological Council Publication series during the past year and a half to assemble a volume of the series containing archaeological studies which make some contribution to a better understanding of prehistoric cultural developments within the State. The goal has been to assemble articles which might advance our substantive knowledge about the way-of-life of the prehistoric indigenous inhabitants of the State, and point our research problems worthy of further investigation. Four manuscripts were submitted; they were all subjected to editorial review and subsequently revised by the individual authors to the form in which they are published here.

I have attempted to arrange the articles in order from the broadest areal and theoretical study to the one most limited in areal and theoretical scope. The first paper "The fact or fiction of prehistoric and historic highland adaptation in the New River Valley, North Carolina" deals with the application of archaeological data to the problem of understanding long-term cultural adaptation to the enviornment of the Southern Appalachian highlands. Focus is on the variables which were important in determining settlement location and size, as well as utilization of local and non-local resources in both prehistoric and historic times.

The second article "Archaeological investigation of a small late prehistoric settlement in the Little Tennessee drainage, Macon County, North Carolina" is concerned with the remains of a small house occupied in late prehistoric or early historic times, and an analysis of the domestic artifacts left there. Some of the information recovered may pertain to the problem of indigenous culture breakdown due to the impact of early European colonization.

The third contribution "An Archaic quarry and stone knapping location on Three Hat Mountain, North Carolina" deals with the question of where Archaic people obtained the raw material necessary for making their stone tools, and how this material was extracted and worked at the source.

The fourth and final paper "The Blue Rock soapstone quarry (31Yc7), Yancey County, North Carolina" examines the evidence for indigenous (probably Late Archaic-Early Woodland) exploitation of a soapstone deposit, and both the methods and tools used by the people to extract "blanks" of this material suitable for working into bowls.

All of the articles contribute some long-term perspective to our understanding of the interrelation between the natural resources of the State of North Carolina and the culture of its human inhabitants. I hope they also contribute to the further development of problem-oriented archaeological research to the State.

Joseph B. Mountjoy, Editor

THE FACT OR FICTION OF PREHISTORIC AND HISTORIC HIGHLAND ADAPTATION

IN THE NEW RIVER VALLEY, NORTH CAROLINA

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ABSTRACT

Questions about Southern Appalachian stereotypes and the reality of highland adaptations in Appalachia are posed and argued on a regular basis by scholars working in this field. Archeology, thus far, has made little use of its own brand of knowledge which it can bring to bear regarding long-term adaptation and change in this region. Using information from a survey in the New River Valley in northwestern North Carolina, areas which can be fruitfully studied are delineated and more questions posed in the form of informal hypotheses. Patterns of resource utilization and changes in settlement pattern reflect temporal/cultural distinctions and changing perspectives of humans' place in the natural world.

INTRODUCTION

Whether or not living in the Southern Appalachian mountains required or fostered special adaptations--social, ideological, technological, and psychological--has been broached by scholars in such fields as history, sociology, economics, anthropology, and political science. For many years, and to a greater or lesser extent in the present, Southern Appalachia has been viewed as a harsh, virtual desert; intimidating to Native populations and only partially conquerable by "more advanced" Euro-Americans. It was a cultural backwater which many passed through but where few settled. Those who did remain were as harsh and backwards as the land itself.

In the 1970s the scholarly pendulum seemed to swing away from this perspective toward the idea that Appalachian populations had specific and definably different highland cultural characteristics which, instead of being backwards, were adaptive. Among North Carolina anthropologists, one of the leading advocates of "highland adaptation" studies was Burton L. Purrington (eg. 1974; 1977:40-54; 1979). The new construct, although concerned with the complex set of variables that influenced prehistoric and historic Appalachian culture, continued to focus on the same basic "Appalachian" characteristic: conservatism. Explicit in Appalachian studies through the 1970s was the belief that such a thing as a distinct "Appalachian culture" did exist. Although behavioral traits took on less denigrating appellations, such as "conservative" and "stable" versus "non-progressive" and "stagnant," the basic ideas shared some similarities.

Now, into the 1980s, it again appears that theoretical perspectives are undergoing a change. Appalachian scholars, at least, are neither conservative nor stagnating. A recent lecture series sponsored by the Appalachian Consortium (1982) strongly questioned the long-held assumption that a unique entity called "Appalachian culture" exists. Before the reader becomes too hopeful of receiving an answer, let it be said that no one seems particularly certain. It has taken over a decade to arrive at a consideration of the base assumption and from this point building starts anew.

Purrington (1977:40, 49) has been among the most important proponents for the valuable contributions to be made by archeological studies of prehistoric and historic Native American and Euro-American Appalachian populations in addressing the various questions mentioned above. Provided with an exceptionally long timespan, archeologists can use material culture to document intra- and inter-regional interactions and local and regional adaptations. As Purrington (1977:42) has noted, however, research-oriented archeology in at least the western North Carolina region has been extremely limited. While many reasons are cited for this deficiency, the major fact remains that the archeological data base is insufficient for providing information pertinent to the consideration of the larger cultural questions. To a certain extent, archeologists in western North Carolina are still struggling with artifact typologies and temporal frameworks. The following exposition will contribute little or nothing to these latter areas.

It is the intent of the author to discuss interpretations of material culture which can serve as a hypothetical basis for future studies of "highland adaptations" and their actual existence. It is realized that this journey into the theoretical and model-building unknown without a firm typological and chronological footing is not standard operating procedure in archeology. It is also maintained, however, that standard

operating procedures are not the only avenues to cultural understanding. A particular emphasis of this paper is that archeology is the study of material culture and its relationship to human behavior. As such, all aspects of material culture, including historic and modern, can be incorporated into research questions. Cultural evolution did not stop with the historical period nor did it end yesterday; it is an on-going phenomenon. The long-term comparisons made possible by a temporally holistic approach enhance our ability to better "relate" to the past, present, and future, and to view past populations, especially Native Americans, in a more "human" and relevant framework.

PROJECT AREA AND PHYSICAL ENVIRONMENT

An archeological resource survey of the Alleghany County Access Area State Park was conducted in the summer of 1981 to determine the location, nature, and significance of archeological resources identified during previous surveys (Ayers 1965; Holland 1969; Robertson and Robertson 1978). The precise nature of many of the sites was unknown since they had been recorded on the basis of hearsay or were known only from surface collections. The request for an in-depth survey of the resources was issued by the North Carolina Department of Natural Resources & Community Development, Division of Parks & Recreation. Under State and Federal law, this assessment was necessary in order to avoid, as much as possible, impact to significant cultural resources. Plans for park development had already been made and the actual impact which this proposed development would have had to be assessed.

The Alleghany County Access Area is located within a broad, U-shaped meander of the main stem New River approximately 1.2 miles (1.9 km) south of the North Carolina-Virginia state line (Figure 1). The New River watershed lies within the Blue Ridge Province of the Appalachians, comprising 770 square miles (1994 km^2) within North Carolina. The Alleghany County Access Area contains roughly 175 acres (70.9 ha) with approximately 75 acres (30 ha) in nearly level floodplain. Topography of the New River Valley in general is characterized by steep-walled valleys, relatively narrow floodplains, and a complex, fragmented ridge system. Elevations within the Access Area range from 2400 ft (731 m) to 2700 ft (823 m) AMSL. Roughly half of the Access Area has slopes in excess of 15%.

The Blue Ridge in western North Carolina is comprised largely of gneiss, schist, migmatite, and granitic rocks that are the products of metamorphism and plutonism that occurred roughly one million years ago (Bryant and Reed 1970:10). The New River flows through some of the oldest rock in the United States, comparatively dated at 1.1 billion years. The oldest Precambrian rock along the river is the Cranberry Gneiss of the Elk Park Plutonic Group. The Alleghany Access Area includes two aspects of this formation. The southern half of the Access Area and the adjacent cliffs are dominantly equigranular quartz monzonite, quartz monzonite flaser gneiss, and quartz monzonite gneiss. The norther half is dominantly augen gneiss and porphyritic gneiss (Rankin et al. 1972).

The most common mineral of local origin which was economically important to prehistoric populations in the area is milk quartz. Quartz veins are exposed in gneissic outcrops and it also occurs as large boulders in

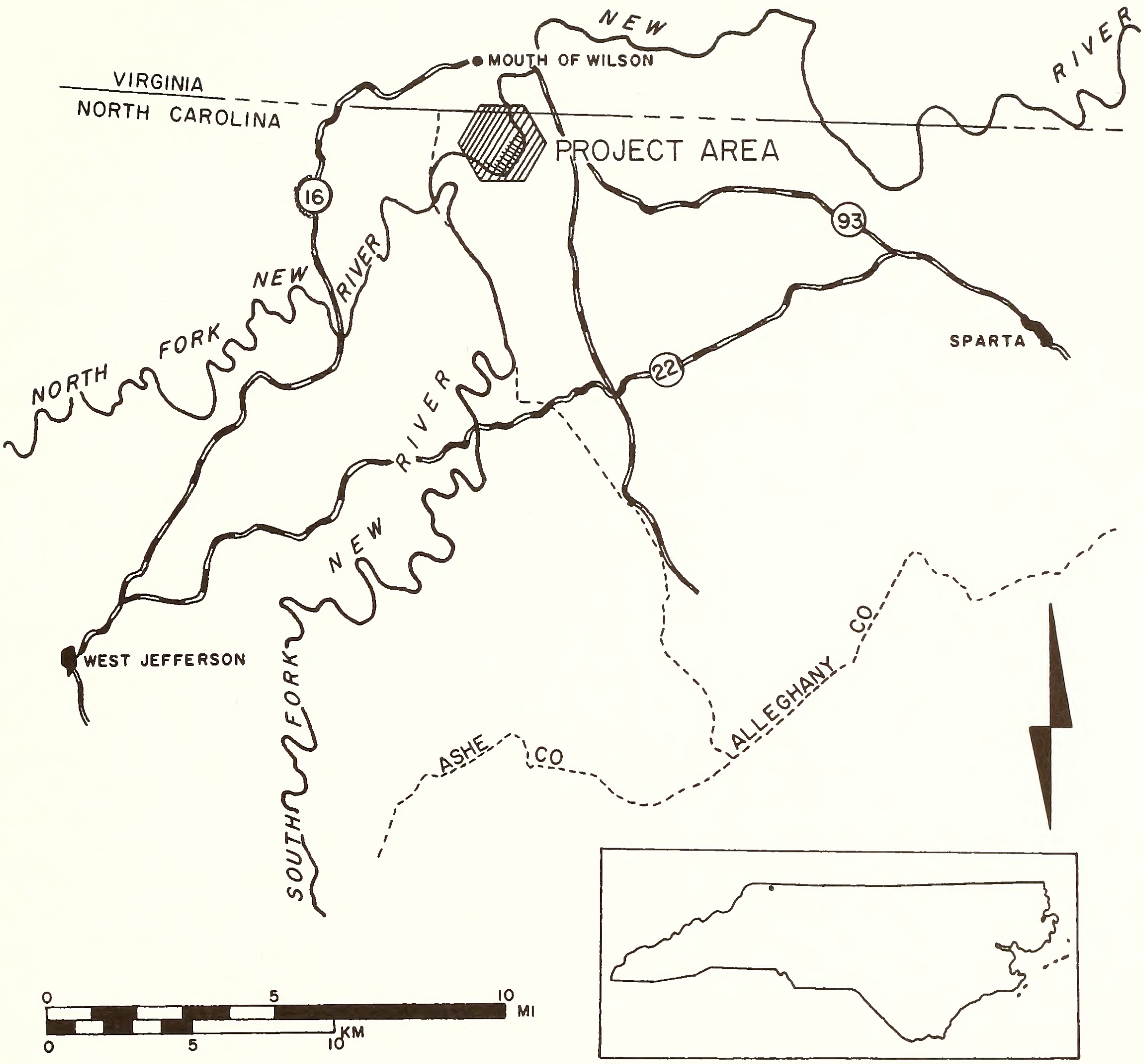

Figure 1. New River Alleghany County Access Area Location.

some areas of the ridge top. Rhyolite is present as abraded and smoothed river cobbles on the river floodplain. The nearest parent source is the Mount Rogers formation from which it derives. Cherts, chalcedony, and jasper were also used by prehistoric populations and are not locally available. It is not known which sources may have been most important to the inhabitants of the Access Area but the nearest extensive chert-bearing formations seem to be in the vicinity of Abingdon, Virginia (in the Great Valley) some 50 miles (80 km) from the project area (Butts 1940: eg. 71,106).

The other raw lithic material which appeared in the artifactual record was crystalline, clear quartz. Although no such material was observed in park formations some may exist. The most important deposits of crystalline quartz in western North Carolina are located in Ashe and Alleghany Counties (Mertie 1959:265). Significant, industrial quality deposits occur in two major groups. The nearest to the project area lies between Piney Creek and Sparta, NC. On the North Fork New River, the nearest recorded deposit is about one mile (1.6 km) west of Crumpler (1959:269-270).

Soils in Alleghany County, as in much of the mountainous region, are usually strongly acidic and low in natural fertility and organic matter (Brewer et al. 1973:1). Low natural fertility has been exacerbated by intensive cultivation and related erosion in much of the project area. The Alleghany County Access Area is located within the Chester-Ashe Association, characterized by well-drained to somewhat excessively well-drained soils. There are some notable exceptions to this condition: Comus fine sandy loam and Codorus Complex soils are characteristic of nearly level floodplains which are subject to frequent flooding. The former is poorly drained (1973:12). These two soil series comprise almost 50% of the floodplain within the Access Area.

In general, floodplain soils on the second terrace (T_1) are compacted with sub-plowzone silt clays or clay silts. There is little or no humic horizon although this is largely due to the past history of cultivation and, presumably, flood scouring. First terrace (T_0) soils are usually coarse sands and gravels lensed with silt. Alluvial sand levees exist along the rim of the second terrace at the northeastern and southeastern ends of the park (in the major bend areas). In swales behind the second terrace in the northern half of the park, alluvial sands are also present. Slopes and hilltops are typically stony clay silt and stony fine sandy loam with little or no humic development except in saddles.

Slopes and ridges are currently in secondary hardwood forest and pasture, the latter being more common within the park. The floodplain is relatively broad and has remained fallow only for the past year. Hardwoods and shrubs grow along impermanent and spring-fed streams cutting through the floodplain and, where drainage is poor, marshes have developed. There are seven streams within the park and one fairly extensive marsh (Figure 2).

Typically, coves, lower slopes, and valleys of the New River Valley are in mesic hardwood forest, hemlock, and white pine (State of North Carolina 1977:55). Hardwood forests are secondary growth, having been exploited for timber over at least the past century with intensive exploitation in the first half of the twentieth century. Dominant species include

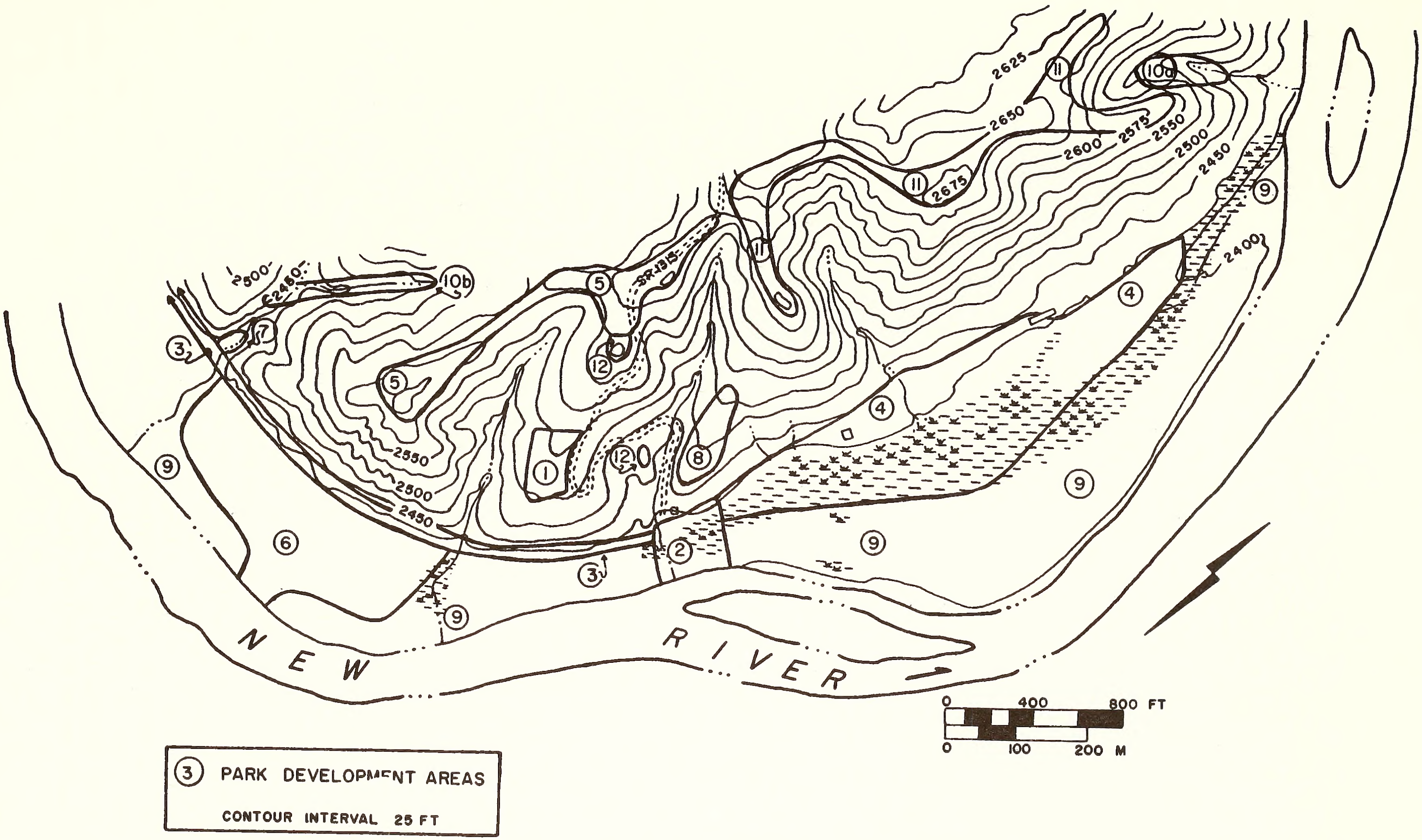

Figure 2. Alleghany County Access Area State Park Development Areas.

red and white oaks (Quercus), hickory (Carya), and tulip poplar (Liriodendron). Understory species include red and sugard maples (Acer) and dogwood (Cornus). Rhododendron and mountain laurel (Kalmia) are common on north-facing slopes (1977:75). A more complete discussion of the local vegetation can be found in Loucks (1981).

SCOPE OF WORK AND METHODOLOGY

In the Scope of Work issued by the Department of Natural Resources & Community Development (NRCD), work in each of 12 defined development areas was individually outlined. Archeological investigations were to include sub-surface testing within areas of known sites and in other locations where site presence was suspected in order to provide data which would be used in assessing the significance of the sites according to National Register criteria. On the basis of these assessments, the archeologist was to make recommendations regarding the planned development in terms of impacts to archeological sites and mitigation and/or avoidance of impacts.

Field work was to include such activities as would enable the archeologist to determine (1) the cultural affiliation of the sites, (2) the extent, depth, and integrity of cultural deposits, and (3) the significance of the archeological resources. Field investigations were to focus on the 12 development areas (Figure 2). These areas were numbered and ranked according to the degree of anticipated disturbance by development with Area 1 potentially receiving the greatest impact and Area 12 the least.

Field methodology and research design were fairly simple. Systematic surface collection and sub-surface testing were proposed for areas located within the floodplain. A permanent benchmark was to be located in Area 2 and this would serve as a reference point for all floodplain and, where possible, upland investigations. It was proposed that an arbitrary grid system be established across the floodplain and that tests would be located at specific points along this grid. Surface collection was also proposed within 15 ft -wide transects divided into 10 ft sections along the floodplain grid. This proved more difficult than anticipated due to very thick groundcover. Sub-surface tests were located 100 ft apart except in Area 9, a "residual" floodplain area, where tests were located at 200 ft or 100 ft intervals. Shovel tests were roughly 1.5 ft on a side and were located with their northwest corners at grid stakes unless otherwise noted. All soil was screened through one-quarter inch hardware cloth mesh and all tests were backfilled.

Methodology for testing Area 3, a 6000 ft long by 72 ft wide corridor, was different than that used in the floodplain. Tests were located 100 ft apart down the middle of the corridor and exposed surfaces were examined. Rockshelters within or adjacent to the corridor were also examined, surface-collected, and/or tested. Upland areas were more informally tested with sub-surface tests located in areas of fairly level ground. Separate grid systems were established to test Areas 1, 7, and 8. Detailed accounts of proposed and employed strategies can be found in Loucks (1981).

Part of the RFP stipulation was that the archeologist must define a "site" as it was to be identified in the field. The working definition of site as employed by the author was that it was any location where three

or more artifacts were found in close proximity and where those artifacts represented a "reasonable" association. "Close proximity" and "reasonable" association were defined at the discretion of the author although it was stated that a quartz flake, ironstone sherd, and a modern rifle cartridge would not constitute a site even though they are found within a one square foot area.

Sampling fraction determined on the basis of test surface area ranged from a low of 0.004% (Area 9) to a high of about 1% (Areas 10a and 10b), depending on the size of the site involved. The sampling fraction based on surface collection area was considerably higher in most cases, ranging from 1.84% (Area 9) to 100% (Areas 10a and 10b). A total of 289 shovel tests were excavated and roughly 5.4 acres (2.2 ha) were surface collected.

The nature of the development areas directly affected the testing procedures. Testing in Areas 1 and 8, both ridge toes, was limited to fairly flat ground. In Area 1, the location of the historic McMillan farmstead (31A171), testing was concentrated around the house site. Area 8 testing was limited to the center of the ridge toe. Extensive marsh and wet areas limited testing in Areas 2 and 4. The former is mostly floodplain, the latter is primarily floodplain with some basal ridge toe areas. Areas 5 and 11 are ridge top and tests were located only on relatively flat ground, specifically in saddles ($\underline{n}$ = 8), on knolls ($\underline{n}$ = 5), on spurs ($\underline{n}$ = 3), and on flat ridge top. Area 6 is located in the floodplain and was well-covered by shovel tests although poorly covered by surface collection due to the especially lush Johnson grass which grew at least 6 ft tall in some areas. Area 7 is a small cove or stream floodplain bordering on the main floodplain at the western end of the park; there is no exposed surface. Areas 10a and 10b are drainages at the northwestern and southwestern ends of the park, respectively. Only rockshelters were examined within these areas. Area 12 is comprised of two historic cemeteries therefore no surface collection or testing were conducted.

RESEARCH GOALS

Regardless of how "assessment-oriented" a piece of archeological work may be, there is always an opportunity for research that can at least make a contribution to regional studies if not to archeology and anthropology in general. In fact, this is almost imperative if the significance of the resources is to be adequately judged. In survey and testing projects when specific prior knowledge is lacking or limited, questions to be addressed are often of a general nature. At the outset of this project, during the proposal preparation phase, the author knew little specifically about the New River archeological situation. The project prospectus made it clear, however, that a long timespan of human activity was represented in the project area. One obvious question, therefore, concerned the relationship of site location to natural features and resources and how this relationship changed through time. Related to this was the question of how humans had utilized both local and non-local resources. What procurement networks were established to provide perceived or real necessities? What impacts had humans had on their environment?

The reported presence of three historic sites was also noteworthy, not only because they lengthened the timespan of human occupation and provided opportunity for examining greatly contrasting modes of human adaptation, but also because little archeological research has involved historic sites anywhere in the Southern Appalachians. It was anticipated that there was considerable possibility for examining the adaptations of early settlers who moved into the Valley in the late eighteenth century and changes that these settlers underwent (and wrought) as time progressed through the next centuries. In the end, this was impossible since two of the three recorded historic sites did not exist in the archeological record. Possibly, they did not exist at all since there was no conclusive documentary evidence that they had been located within the project area. Although this reduced some of the comparative ability of the research, it did make it clear that site identification based on tradition and hear-say, no matter how well informed, is questionable.

PREHISTORIC SITES

Fifteen prehistoric sites were examined during the 1981 archeological survey of the Access Area. Eleven of these had been recorded during previous surveys although the prehistoric component was not always recognized. For example, two sites (31A171 and 31A172) were recorded as historic sites during the 1976 survey (Robertson and Robertson 1978). One of these was primarily historic but the other was primarily prehistoric. Only nine of the 15 sites were the principal focus of the 1981 project. The other six were investigated in a cursory fashion only as they impinged on the park development areas. Several isolated prehistoric finds or small clusters of artifacts were encountered but these were not designated sites.

The two largest sites were located in the New River floodplain and had been recorded previously. 31A178, in the northern half of the floodplain (Figure 3), had been divided into three sites during the 1976 survey (31A178, 31A179, and 31A180) but no real basis was found for this distinction. Artifact occurrence was continuous over the entire area and no distinct boundaries marking the 1976 sites could be discovered. For these reasons, only one site was recognized during 1981 and it was assigned the lowest of the three numbers assigned in 1976 (i.e. 31A178).

31A178 covers roughly 24.5 acres (9.9 ha) as it is currently defined. The site is confined to the second terrace of the floodplain although artifact concentration appears to be greatest on the higher ridges of the terrace in the bend area. Artifacts were confined primarily to the plowzone but some sub-disturbance artifacts were recovered. It does not appear that there are any deeply buried deposits (that is, no more than 3 ft below surface) but different testing techniques would be required to bear this out. No cultural features were encountered in any of the test units but some may have escaped the plow.

Artifacts recovered from all field work, past and present, indicate human occupation from the Early/Middle Archaic through the Late Woodland (ca. 8000 B.C. - A.D. 1400 or later). It should be noted that re-analysis of the 1976 survey materials is currently in progress and that this may change the interpretation of the occupation period. The "Late Woodland" as used in this paper refers more to a way of life than to a particular

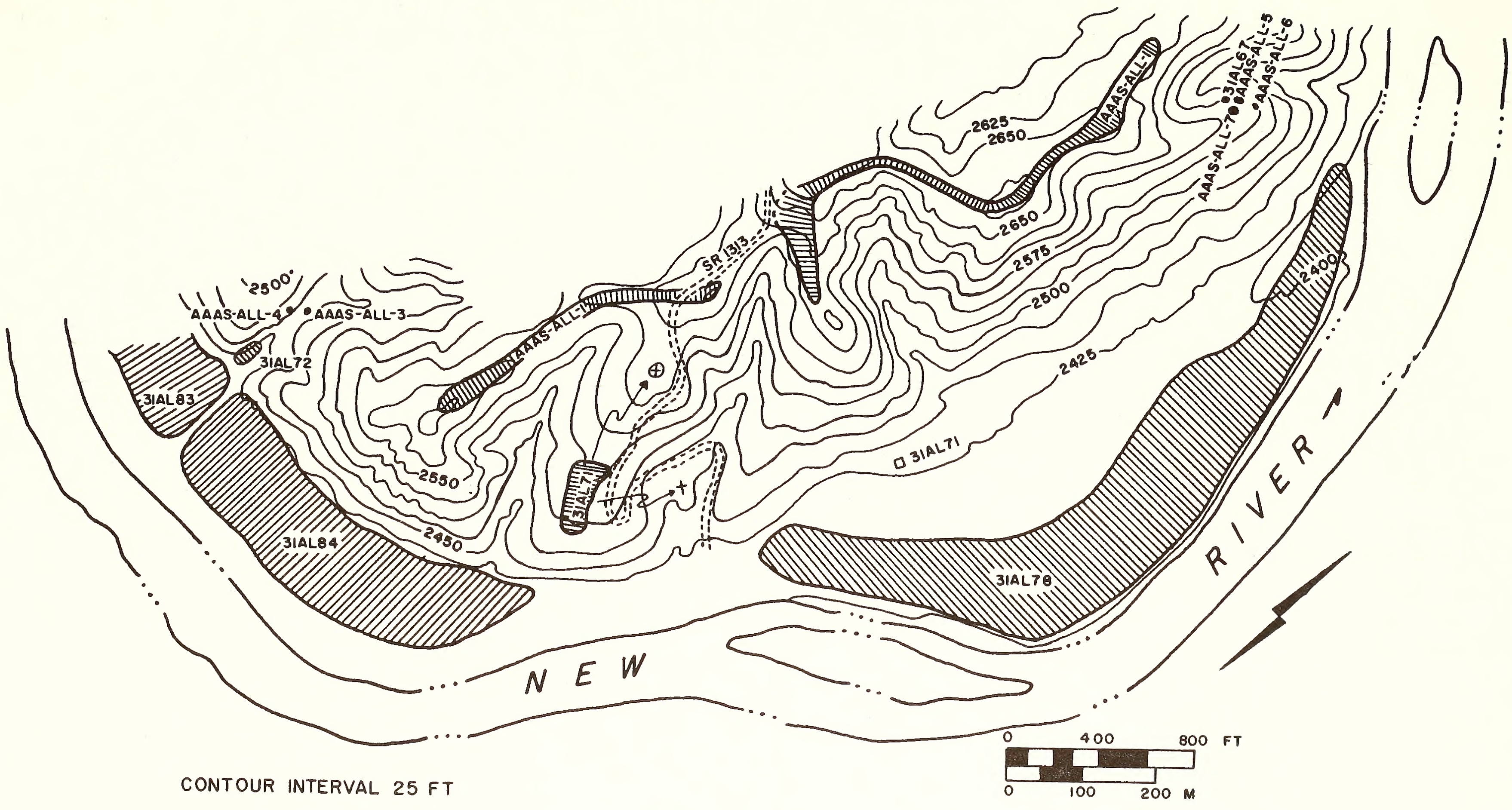

Figure 3. Archeological Sites Located within Alleghany County Access Area State Park.

time period. In other areas of the Eastern United States (especially in the Southeast), Woodland times end around A.D. 1000 with the spread of Mississippian influence. Mississippianism is usually marked by the appearance of fairly large population centers (stockaded villages and towns) which are the focus of religious and political activities. These centers are supported by smaller villages and hamlets, often hierarchically arranged around the center. Economic systems are characterized by long-distance trade controlled by an elite class, redistribution, increasing differential access to goods (especially exotic and status-related goods), and horticulture. Warfare is prevalent and public works organized by the religious-political elite are common. Certain artifact styles are also associated with the Mississippian phase, among them small arrow points and, in the Southeast, complicated stamped ceramics.

Most of these characteristics do not appear (thus far) in the archeological record of the New River Valley in western North Carolina and Virginia. Large centers with central plazas surrounded by platform mounds and elite residential areas have not been defined. Villages exist but they seem to be relatively small. Neither platform nor burial mounds have been identified. As yet, it is not known how important horticulture was in the subsistence base but the increasingly intensive occupation of the floodplains is often interpreted as an indication that it played some role in supporting the population. It is important to realize, however, that the location of villages in the floodplain does not necessarily indicate horticulture and that other kinds of corroborating evidence are needed. Two probable (corn) cob marked sherds were recovered from the surface of 31A178 but even these do not provide substantial evidence of horticulture.

Other indications of Mississippianism are also lacking: exotic, status-related goods are not found (although the author often wonders if other collectors over the years may be at least partially responsible for the absence) and complicated stamped ceramics are either absent or extremely rare. Some complicated stamped sherds were recovered during the 1981 survey but they comprised much less than 1% of the ceramic assemblages. In view of these factors, then, the Late Woodland is usually continued through the end of the prehistoric era even though that date is unknown. The use of the term "Late Woodland" simply indicates late prehistoric occupation and the absence of identifiable Mississippian (or equivalent) characteristics in any great frequency.

Returning to 31A178, then, 140 ceramics were recovered from tests and, primarily, the surface of the site. Few of these were actually identifiable but among those which had surface decoration, knotted net impressed and cord marked types predominated. The use of crushed quartz (angular particles usually greater than or equal to 0.5 mm) to temper clays was almost universal.

Lithic artifacts were much more numerous (_n_ = 1656) and most of these derived from surface collection. Raw materials used in the manufacture of stone tools included locally available resources (quartz and rhyolite) and non-locally available materials (chert, chalcedony, and jasper). Crystalline quartz was also used but it is not known if it was local. At 31A178, rhyolite artifacts greatly predominate over those made from other materials. Quartz is second most common, followed by chert. Although rhyolite is

dominant in overall frequency, non-local resources seem to have been preferred for the manufacture of some tools. To what extent these differences are temporal is unknown at this time although investigations on the New River and elsewhere have suggested that cultural affiliation is a, if not the, major factor. Another problem exists, however, in the greater difficulty of identifying wear on quartz and rhyolite than on chert and related materials. One might hypothesize, though, that given the cost of procurement prehistoric knappers would have wasted less non-local stone than local stone.

The other large floodplain site investigated during 1981 was 31A184, located in the southern half of the park (Figure 3). This site is also confined to the second terrace although cultural deposits extend up onto the basal ridge areas around the streams at the northern and southern end of the site. The site covers approximately 11.7 acres (4.7 ha). As at the northern floodplain site, artifacts indicate human occupation spanning the Early/Middle Archaic through the Late Woodland. This site inventory is very similar to that of 31A178 although artifact abundance is slightly lower in absolute terms but probably higher in relative terms. Only 46 ceramics were recovered and most were unidentifiable. Knotted net impressed and cord marked again seem to dominate, however. Lithic artifacts were more common ($\underline{n}$ = 1118). Rhyolite was numerically most common, followed by quartz, then chert. Debitage was the single largest class of lithic artifacts at both of the floodplain sites; worked artifacts comprised 3% or less of the floodplain site assemblages.

Most of the artifacts from 31A184 were recovered from the plowzone or Zone 1. The major exception to this was one test located on the low ridge near the southern/western stream. Artifacts in this test were recovered to a depth of 2.90 ft (88 cm) below surface. Most sub-plowzone artifacts in the floodplain were collected from the tests in alluvium or in the swale behind the natural sand levee. Some artifacts were recovered from just below the plowzone in other tests, however, indicating that the site has not been totally destroyed by cultivation. No cultural features were encountered.

31A172 was by far the richest prehistoric site. It is located in a small cove just north of the floodplain and adjacent on the west to the stream at the southern/western end of 31A184. This site was originally recorded for its historic importance since it was supposed to be the late eighteenth century Sturgill homesite. The only historic artifacts recovered, however, were twentieth century. Although the historic importance could not be demonstrated, 31A172 is probably one of the most important prehistoric sites in the area. The cove has received only minor disturbance and the cultural midden zone is definable and largely intact. Artifact distribution is vertically stratified; the most obvious indication of this is the fact that ceramics and chert artifacts were derived principally from the upper levels in tests whereas rhyolite artifacts were recovered primarily from the lower, aceramic levels.

This is a small site, encompassing an estimated 0.1 acre (0.04 ha). Except for a few small hardwoods, the cove is open and heavily grown in herbaceous vegetation. The artifact-bearing midden overlies alluvial sands and gravel of a fan formation. Late Archaic artifacts were recovered

from just above these sands and a few artifacts were encountered in the top of the sand stratum. Occupational debris suggests that human activity covers a temporal range similar to that of the floodplain sites. Without excavation, however, it is impossible to ascertain if occupation was more or less continuous or if there was an hiatus between Late Archaic and what appears to be Late Woodland. Seventy-five sherds and 605 stone artifacts were collected from twelve of the fourteen tests. Animal bone was also preserved in the organic midden. Much of it was fragmentary but one element--a white-tailed deer phalanx--was identifiable.

The most common decorated ceramic type was knotted net impressed, followed by cord-wrapped sticks (or fabric) impressed. The most unusual sherd was a rim which was fairly thin and plain except for a neatly incised line just below the lip. The inclusion of coarse-to-gravel, angular quartz as temper was common. Proportions of raw materials used in the manufacture of stone tools were markedly different at this site. Chert was the most frequent, followed by quartz and then rhyolite. This apparent abundance of non-local raw material may indicate a more intense late occupation than on the floodplain, functional, or sampling error differences. It may also be a factor of using artifact counts alone with no data taking relative size/weight into consideration. Although quartz was second in frequency, it appeared to be represented largely by debitage.

Another cove site investigated is in the same drainage as 31A172 about 230 ft (70.1 m) north of the latter. This site, temporary number AAAS-A11-4, is not actually within the park so testing was minimal. One of two tests contained 93 lithic artifacts; the other was culturally sterile. Included in the lithic assemblage was a rhyolite preform base, probably intended as a Savannah River point/knife. This artifact dates the site to at least the Late Archaic. Rhyolite was the dominant raw material followed by quartz and chert. It is probable that the artifacts are stratified.

Roughly 30-35 ft (9.0-9.5 m) north of AAAS-A11-4 on the opposite side (east slope face) of the drainage, two rockshelters containing cultural material were investigated. These two shelters were given the temporary site number AAAS-A11-3. They are situated 30-40 ft (9-12 m) above the stream and both face northwest. The lower shelter yielded 233 lithic artifacts and 15 sherds from the surface and one shovel test. The upper shelter, located immediately above the lower one, produced only 19 lithic artifacts and 36 sherds. Artifacts indicate human occupation during the Late Woodland and probably earlier. The cultural deposits in these shelters are intact and, at least in the lower shelter, stratified. Decorated ceramics were dominated by cord-wrapped sticks impressed although most of these came from a single vessel. Knotted net impressed was also common. For the site as a whole, quartz was numerically more abundant than the other raw lithic materials but it was apparently represented largely by debitage. Rhyolite was second most frequent followed by chert and chalcedony (aggregated as non-local materials).

Virtually all of the ridge system within the park was designated as one site, AAAS-A11-1. The site was divided into two parts (1A and 1B) which correspond roughly with development areas 5 and 11, respectively. These two parts are separated by S.R. 1313. The entire site encompasses about 9 acres (3.6 ha) and includes saddles, knolls, and the intervening

ridges. Most of the sub-surface tests yielded artifacts, all of which were lithic (*n* = 286). Unexpectedly, some of the knoll tests produced more artifacts than did some of the saddle tests. None of the artifacts were diagnostic; most were quartz debitage. Rhyolite and chert were also present, in that order of decreasing frequency. Cultural deposits seem to be intact although the cultural zone is usually shallow. Erosion may have had some impact on the ridge. This is especially apparent in saddles where the midden is buried below sterile, colluvial soil.

At the northern end of the ridge is another complex of sites composed of three rockshelters (31A167, AAAS-A11-5, and AAAS-A11-6) and a small area of ridge top immediately east of AAAS-A11-5. 31A167 was recorded in 1976 and tested at that time and again in 1980 (Mathis, pers. comm.) therefore it was not tested in 1981. This was the only one of the four components that produced ceramics, all apparently part of the same vessel which could be Early Woodland. Immediately north of 31A167 is a much larger shelter, AAAS-A11-5. Four tests were dug in this site but only two yielded artifacts (*n* = 37 lithic artifacts). One of these was a quartz Morrow Mountain point (Middle Archaic). Rhyolite was the only other raw material represented in this site and it was less frequent than quartz.

AAAS-A11-6 is a very small rockshelter located about 75 ft (22.5 m) NNE of AAAS-A11-5. One test was excavated and one artifact (rhyolite) was recovered. All of these shelters are located on the east slope above a small, narrow drainage which empites into the New River. All shelters face northwest.

AAAS-A11-7 is marked in a shovel test on the ridge just behind (east of) the rockshelters. Eight lithic artifacts, including the only chert from the northern ridge section, were collected.

31A171 is principally an historic site but some prehistoric artifacts, all lithic, were recovered from tests in the vicinity of the house ruins. None of the 147 artifacts were diagnostic and all but one jasper flake were from disturbed contexts. Quartz was the dominant raw material, followed by rhyolite and chert, in that order.

Southwest of the park proper, near the end of the Area 3 corridor, is a large cave designated 31A154 during the 1976 survey. One test was located just in front of the mouth of the cave and one chert artifact was recovered.

THE MCMILLAN FARMSTEAD

The McMillan farmstead (31A171) is composed of the stone foundation ruins of the house and one nearby barn (Area 1), another related barn ruin in Area 4, two standing structures in the area of the house, a family cemetery and a slave/black cemetery (Area 12). Fields J. McMillan purchased 705 acres (286 ha) of land in the Alleghany Access area in 1850. The house itself was built by McMillan between 1850 and 1855, indicated by documentary information and the earliest dated gravestone in the family cemetery (Loucks 1981:xvii). McMillan was a member of a family who were among the first settlers in Ashe/Alleghany Counties. His grandfather and uncle had been important figures in local and/or state politics, serving in the courts, State House, and/or State Senate. Fields McMillan himself served two terms in the State Senate, was an early justice and Register of Deeds

in Alleghany County. He was comparatively wealthy; a large landowner who employed laborers and owned slaves. Most of his income was from livestock sales but he also established a woolen mill in Mouth of Wilson. He was a leading figure in the rural community, served as a colonel in the War Between the States, was a Freemason, and probably helped to establish one of the early schools in the New River area near Mouth of Wilson (Loucks 1981:149-155).

McMillan, his family, slaves (and later, free black servants), and his in-laws all lived in the farmstead at one time or another. McMillan, seemingly the last of the group to live on at the house, died in 1904. Members of the family continued to live in the house until the 1920s at which time it was rented out to tenants. It later became a hay barn and was finally razed in the early 1970s.

Most of the investigations at the McMillan site involved sub-surface testing, especially in the area of the house, and making mapped and photographic records of the lot plan, buildings, ruins, and cemeteries. A total of 1783 historic artifacts were recovered from the site. Most of these derived from tests in the house area (n = 1745) and only 38 artifacts were recovered from tests in the vicinity of the Area 1 barn. Most of the historic artifacts were pieces of glass (primarily window but also tablewares) and nails (primarily machine cut). Ceramics included ironstone--the most abundant--whiteware, semiporcelain, earthenware, and stoneware. Glass included fragments of bottles, goblets, tumblers, and fancy hollow wares. Organic artifacts were well-preserved, some no doubt dating to the tenenat period (twentieth century). Faunal materials (n = 62 fragments) were especially well-preserved in trash pits/middens. A small sample of 10 MNI included eastern cottontail (Sylvilagus floridanus), groundhog (Marmota monax), possible pig (Sus scrofa), unidentified bird, unidentified bony fish, and black snake (Colubridae). Ten floral artifacts were also recovered: four walnut hulls, three cherry pit halves, and three peach pit halves.

The artifacts recovered were not particularly helpful in establishing a temporal frame since historic artifacts from the last 150 years are very similar to those manufactured today and none of the artifacts recovered had complete maker's marks or legends. All that could be learned regarding temporal affiliation of the recovered artifacts was that they date from the middle of the nineteenth century through at least World War I, and probably somewhat later.

In addition to the exposed, dry-laid stone foundations of the house, additional foundations were encountered in sub-surface tests and other cultural features (possible trash pits) were exposed in a small test and an uncompleted 5 ft by 5 ft unit. The remains, or at least the location, of the original detached kitchen may also have been discovered. The standing structures associated with the house include a springhouse and a shed of unknown function. Both are of later construction than the house, probably dating to around 1920. The silos associated with the barns are also from this later period. All of these later additions are made of poured concrete, heavily "tempered" with river gravel.

Field and documentary research and conversations with the Smith family, who live near the State Park, were extremely helpful in filling out

the picture of the now-ruined structures. Mrs. Sue Smith, a descendant of Fields McMillan, was especially helpful. Little was known about the barn in Area 1. Its foundations are about 185 horizontal feet (55.5 m) south of the house and roughly 20 vertical feet (6 m) below it. The barn foundation was dry-laid stone but more recent attempts have been made to fix parts of the slumping foundation with cement. The best preserved section is the south wall. Six stone pillars, which may have supported major up-rights, are spaced along the 48 ft (14.4 m) east-west length at alternating intervals of 5 and 10 feet. The north-south dimension of the barn is about 36 ft (10.8 m). The poured concrete silo foundations are at the northwest corner of the barn. Both are about 11 ft in diameter and are reinforced with iron straps. The superstructure was wooden board. Both silos were plastered on the interior and had mortar floors.

The McMillan house foundation measures 30 ft (9 m) north-south by 34 ft (10.2 m) east-west. It was two-story frame, faced south toward the river, and had external, brick chimneys on the east and west ends. The bricks for the house were reportedly made from clay dug in the floodplain (Russell 1976). According to Sue Smith, who visited the house when it was still owned by the family, the house had the same number of rooms on both floors. The living rooms were L-shaped and a two-story front porch filled the angle of the "L." The front of the room, on the ground floor, consisted of the "front room" in the southwest corner and the porch in the southeast corner. The front room is about 14 ft (4.2 m) east-west and 10 ft (3 m) deep. Behind the front room was another room containing the west fireplace. The "large room," or sitting room, was behind the porch and contained the east fireplace. A central hallway ran between the two back rooms and opened onto the porch.

It is known that other structures were present on the property but testing did not locate them. These structures included the "slave house," the house where McMillan's in-laws lived, the one or more privies, and the original detached kitchen. Artifact type and concentration suggest that the kitchen may have been located just west of the house foundation.

Fields McMillan, who built the house at the Mcmillan site and lived in it for over half a century, represented the changes being wrought in northwestern North Carolina with the coming of a new phase in American history. His life and activities straddle the period of frontier expansion, land development and alteration, and emerging industrialization in the Southern Appalachians and the country at large. He personifies the changing South following the War and links the early period of settlement with the later period of development and massive exploitation of the natural environment.

There is no particular architectural significance to the ruins of the site; its significance rests in broader, cultural aspects. Social scientists studying modern populations (and to some extent, early twentieth century populations) in the Southern Appalachians have been concerned with breaking the stereotype of "mountaineers" as ignorant, non-progressive, and culturally isolated. Economic development in Appalachia is still conceived of by many planners as being a "new" venture. There is an almost total lack of understanding of the cultural processes which have created the Appalachia that "really was" and the stereotype. History

in a traditional sense can make contributions to the understanding and explanation of these processes but archeological research can provide much greater depth to the elucidation of these processes and the nature of the populations who have inhabited these environs. Historical records too often focus on the "important" when it is the "mundane" that has had the longer-lasting and more immediate impacts.

SETTLEMENT PATTERN AND RESOURCE UTILIZATION

As indicated above, research questions were of a very general nature. One goal involved determination of how sites had been located with respect to natural features and how this relationship had changed through time (if, in fact, it had). Another question involved human utilization of local and non-local resources and how this had changed through time. Thus far, artifact and site analysis has been at such a low level that much information needed to fully address these questions is not available. Some initial statements can be made, however, and offered as tentative, informal hypotheses.

Plowing in the Access Area floodplain has sufficiently disturbed the distribution of artifacts, making identification of overlapping or distinct Archaic and Woodland artifact clusters virtually impossible. If the sites within the floodplain are treated as homogeneous units, however, it is obvious that they are multicomponent as are the undisturbed cove and southernmost rockshelter sites. Non-diagnostic lithic artifacts have not been differentiated into Archaic versus Woodland types thus far. On the basis of gross comparison, however, it can be hypothesized that Archaic components represent more limited activities than do Woodland.

Activities on the ridge top may have been associated primarily with Archaic populations but the absence of diagnostic artifacts makes this hypothetical. There is no reason to assume, even given the lack of ceramics, that only Archaic peoples made use of the ridge. AAAS-A11-1 seems to represent limited activity, short-term occupation, over an unidentified period of time. Cultural debris on the ridge top may be related to quarrying and/or hunting activities. It may also reflect the hypothesis that ridge systems were important transporation routes (Mathis 1981).

Quartz was the predominant raw material recovered from tests on the ridge and from the northern complex of rockshelters. Artifact density was not high within these shelters--certainly is was low when compared to the southern shelters--suggesting that occupation of the northern shelters was also limited in time and intensity. In addition, ceramics were uncommon in the northern rockshelters and bore little resemblance to those from elsewhere in the Access Area.

The southern rockshelters appeared more related to the cove site at the edge of the floodplain (31A172) than to the northern shelters. There is no flat cove associated with the drainage system in the latter area. It would appear that the attractive features of the rockshelters differed for Archaic and Woodland populations, the former utilizing "all" shelters, the latter (particularly during the Late Woodland) restricting occupation to shelters associated with cove/stream floodplains. What this may indicate is not immediately clear except that certain resources found in the

stream floodplain habitats were a drawing factor to Woodland peoples. These resources may include food sources such as nut-bearing trees in the cove hardwood forests. They may also include flat, cultivable land within easy access.

There was some hope that protection from prevailing winds and the facing direction of the shelters could be used to indicate seasonality of occupation. Prevailing winds are out of the southeast; southeasterly winds predominate in the winter months (December through February) and late spring-summer (April through July). In late summer and fall (August through November) and early spring (March), winds are from the northeast. The facing direction of the shelters in both areas is basically northwest and it would seem that general protection would be afforded throughout the year. According to Mathis, however, (pers. comm.) the winds blew hard and cold into the 31A167 rockshelter when it was being tested in the early spring of 1980. Winds up the cove at the southern end of the park might be expected to be more of a problem when the winds are from the southeast. Protection afforded by forests and surrounding ridges, however, must have been considerable during the late spring through early fall. It was probably only during the late fall through early spring, when the trees were bare, that the winds presented any real discomfort. In that case, occupation of the shelters at the northern end of the park during the late fall through early spring would have been most uncomfortable. It is difficult, if not impossible, to try to judge prehistoric perceptions of comfort. It may be suggested, however, that year-round occupation of the southern rockshelters might have been more appealing and that this may explain, at least in part, the habitation of these shelters by the (assumed) more sedentary Woodland populations.

Another climatic factor which may be implicated is the tendency for cold air to "settle" in the coves and drainage basins. Out on the floodplain, presumably where air flow was more intense, this would not have afforded the problem that the lack of turbulence would in the coves. Possibly, the Woodland occupations of the southern rockshelters occurred during the colder months when living above the floor of the cove involved only minor relocation but afforded greater protection from the cold and winds. Still another possibility is that the coves and rockshelters provided relocation sites during floods. While a seemingly good possible interpretation, this would be very difficult to demonstrate.

Analysis of the historic settlement pattern is made difficult due to the.fact that only one definite historic sites was located. The McMillan site was neither on the ridge nor on the floodplain, rather it was between the two on a ridge spur which was, no doubt, at least partially levelled prior to construction. It is not expected that settlers who make their living by farming and build substantial structures would locate their buildings on fertile floodplain soils that are subject to flooding. Ridge tops, on the other hand, were exposed to the proverbial elements once they were timbered and, probably more importantly, they were turned to pasturage and hay production. The in-between arrangement seems to have been the most practical given these considerations. The only historic construction on the ridge top appears to have been limited and ritually based--the construction of cemeteries. The author has not

conducted in-depth research into the reasons for locating cemeteries on knolls, spurs, and ridge tops but there are some obvious and, perhaps, ideological considerations. Such a location placed the deceased corporally and spiritually closer to heaven. This location provided the dead with a better view of those still living and the reverse was also true: those living could receive fairly constant reminders of those who had died. It is doubtful that the location of cemeteries was as much for the dead as it was for the living. There is an obvious solemnity and spirituality (not to mention display of devotion) in the picture afforded by the funeral procession laboring up the slopes to lay the dead to rest on the wind-blown elevations. The practical consideration lies primarily in the fact that this location made use of otherwise inferior settings thus moving the dead out of the way of the living.

The McMillan family cemetery was situated on a high knoll above the family house. The smaller cemetery, probably that of the slaves (and later, freed Blacks) was situated on a ridge spur below the main house. It seems clear that social position was maintained and reinforced in death as it had been in life; more lowly humans were buried in more lowly places. The rough, local stone used in the slave/Black cemetery contrasts with the imported, finished, embellished markers in the family cemetery. Some rough gravestones occur in the family cemetery but these were also segregated by form, raw material, and location. If these latter were the gravestones of house servants, or freed Blacks, they had been elevated (literally and figuratively) over their predecessors/peers but they had not yet attained equality.

One could go on indefinitely regarding the symbolic location of the house, situated so that it faced the river and commanded a view of all they "surveyed." Comparative information on prehistoric settlements would be most enlightening. The commanding perspective of the historic structure, and the orderliness of the buildings and their pattern, is in keeping with the perspective of command over Nature rather than integration with it. Even in the planning of the State Park, the emphasis is more one of command--with picnic areas, overlooks, and trails on the ridges for full appreciation of the scenic view--than integration. In making a sanctuary of Nature, Western philosophy (and the resultant actions) still tends to set humans apart from the rest of the natural world.

Without full temporal control over the prehistoric archeological record, it is difficult to assess changing patterns of resource utilization. Undoubtedly there are temporal differences between resources used by Archaic populations and those used by Woodland groups. Settlement pattern suggests some of these differences. Woodland populations appear to be more sedentary indicating intensification of food resource exploitation in a more localized area than that used by Archaic peoples. There is also some slight suggestion that cultivation of domesticated plants was added to the Woodland cultural milieu. The size of the later sites cannot be determined on the floodplain and no overall estimate of changing population size is possible. The smaller cove and rockshelter sites suggest that population density was not very great despite the postulated use of cultigens. Environmental alteration was probably minimal although this is more hypothetical than substantiated.

Thus far, the best material for studying resource utilization is the lithic artifacts. Holding temporal differences equal, it would appear that proximity to raw materials was of major importance in the floodplain and uplands. Rhyolite, which is located as river cobbles on the river floodplain, was the dominant material used there whereas quartz, available in ridge top outcrops and in rockshelter veins, was the dominant material represented in those areas. The preferred materials for tools, however, were not always identifiable as those most readily available. Rhyolite appears to have been the preferred tool material over quartz during the Archaic in both floodplain and upland sites (as judged from projectile point classification). Chert, chalcedony, and jasper appear to have been the preferred tool materials during Woodland, especially Late Woodland, periods. By the time of Woodland occupation, therefore, one can hypothesize that resource procurement networks were vastly enlarged over the earlier Archaic stage. Whether these non-local resources were brought in as the result of procurement forays or through trade cannot be determined at this time. Certainly, however, there was an increased use of extra-territorial resources during the later periods of occupation although this exploitation was neither far-ranging (in a modern or even late prehistoric sense elsewhere) nor intensive since the dominant raw materials were still the local ones.

As one would expect, reliance on extra-territorial resources intensified greatly during the historic period. More could be said if the earlier historic site purported to be in the Access Area was found. By the nineteenth century, market networks brought in glasswares, ceramics, and metals. They removed timber, stone, and livestock and crops supported by the local environment. There can be no doubt that resource utilization during the McMillan occupation was based on removal and replacement, yet local resources were utilized. Local game animals were consumed, local timber was surely used in the construction of the house and other buildings, local clay and stone were used in building houses, utilitarian structures, and monuments. The greatest monuments, however, were manufactured from imported stone (i.e. the marble gravestones). The basic ideology expressed in this resource utilization is again one of command: alteration, extraction, importation, reconstruction. If the population density was much lower during historic times--an assumption at this point which seems reasonable but could be questioned--the impact was dramatically increased, for the population being supported was no longer just the local one but a regional, national, and international one.

LAST WORDS

The Alleghany County Access Area is the stage setting for human activities which have made a significant contribution to our past. Human exploration, settlement, adaptation, and management of mountainous environments in the eastern United States have played an important role in the more general occupation of the East and expansion into the "new" frontier of the West beyond the mountain ranges. The mountains have always been seen as barriers, prohibitng communication and promoting isolation. For Euro-American settlers, conquering the mountain passes and settlement of

the mountains themselves opened the frontier west of the Blue Ridge to human expansion and exploitation. The Euro-American and the Native American past east and west of the mountains are inexorably linked to those "barriers." We cannot understand what happened to "Appalachia," nor to the east and west of Appalachia, without understanding what humans did and how they lived in the mountains and the nature of their communication with the rest of the region, nation, and world.

Within the Access Area, the sites together comprise a "whole" that is greater than the "parts." Individual sites may or may not be archeologically significant, but an understanding of what happened in the past cannot be gained if they are viewed as single, unlinked entities. The process of human adaptation cannot be studied at the ridge top site without studying it also at the rockshelters, coves, and floodplain. Neither can we really understand how life changed, and the impacts of those changes, without studying both prehistory and history. There is a pattern in the whole that is absent in the parts and all too rarely, it seems, does one get the opportunity to study the entire pattern within one microcosm.

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ARCHAEOLOGICAL INVESTIGATION OF A SMALL LATE PREHISTORIC SETTLEMENT IN THE LITTLE TENNESSEE DRAINAGE MACON COUNTY, NORTH CAROLINA

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ABSTRACT

Archaeological investigations at a small, late prehistoric site located in Macon County, North Carolina are discussed. Excavations and other data recovery methods employed are described and results of the fieldwork are presented. Laboratory analyses of recovered artifacts and soils are discussed in light of certain substantive and methodological problems. The overall results of the investigations are interpreted by reference to existing summaries of local and regional prehistory.

INTRODUCTION

Archaeological investigations reported herein were conducted at a late prehistoric aboriginal site in Macon County, North Carolina during February and March, 1980. The site was first identified during a cultural resource inventory of a small tract of land in the Wayah Ranger District, Nantahala National Forest (Barber 1980). Identifying designations for the site include the U. S. Forest Service number WA-1-80* and Western Carolina University Archaeology Laboratory accession number 225. The land where the site is located had been proposed for exchange by The National Forests of North Carolina, thereby placing the site out of government control. Viewed as an adverse impact, this action required mitigative archaeological studies.

Excavations at the site were conducted on successive weekends and on some weekdays, from the beginning of February through mid-March, 1980. Academic responsibilities of the Principal Investigator precluded a more regular work schedule. The field crew ranged in number between two and ten persons and consisted primarily of anthropology students enrolled at Western Carolina University. Weather during the field session was consistently inclement. Extreme cold was the rule and it rained or snowed frequently. Although the bad weather sometimes slowed or otherwise hampered fieldwork activities, the enthusiasm of the crew members was exceptionally good. The efforts and contributions of the following persons are gratefully acknowledged: Ronnie Ambrose, Michael Barber, Stephanie Blount, Daniel Brabson, Jack Day, Richard Davidson, James Errante, Mark Jones, Jane Lawrence, Tommy Marshall, Mark Martin, Ned Mount, Michael Odom, Linda Pinkerton, John Provetero,

**Permanent State site number 31Ma182*

Ron Raxter, Mark Westebbe, Sharon Westebbe, and Ann Zito.

Laboratory processing of materials recovered from the site was performed by students enrolled in archaeology classes at Western Carolina University during the spring semester, 1980. In addition, a number of students undertook limited research projects on topics pertaining to the investigations. Selected information produced by these studies is incorporated in this report. All cultural materials recovered from the site and all records resulting from the field and laboratory investigations are being curated at the Archaeology Laboratory, Western Carolina University.

SITE LOCATION AND DESCRIPTION

The site is located approximately 1.7 km west southwest of Otto, North Carolina on the eastern bank of Howard Creek at the western foot of Little Mountain (USGS 1946). Howard Creek is the south fork tributary of Coweeta Creek which enters into the Little Tennessee River some 4.4 km distance from the site.

The site is situated on a prominent flat remnant terrace (terminal mountain slope) of limited area located approximately 100 meters southwest of Howard Creek. The terrace rises immediately and abruptly to an elevation of about 10-12 meters above the creek floodplain. Prehistoric cultural materials were found distributed across this and portions of an adjoining terrace to the northeast and initial estimates placed site dimensions at 50 x 175-200 feet (Barber 1980). Present investigations confirmed this estimate of actual artifact distribution, but the site area proper was found only to occupy the prominent terrace described. Based upon excavations, shovel tests, and soils analysis, the site area is estimated at about 0.25 ha (Fig. 1).

Artifacts and other evidence recovered during the investigations suggest that the site is single component (i.e. represents a single occupation) dating to the Mississippian period (Dickens 1976). The primary artifact type represented at the site is ceramic sherds, with most of these fitting sherd type descriptions of the Qualla phase (B. Egloff 1967:34; Dickens 1976:14-15). Although it is not possible to assign the site to either the early Qualla phase (A.D. 1450-1650; Dickens 1976:14) or the late Qualla phase (post-1650), the absence of early Euro-American artifacts at the site suggests a late prehistoric (early Qualla) site affiliation.

Excavations at the site revealed the presence of a former structure (presumed domestic) on the middle portion of the terrace. For reasons to be discussed, it is believed likely that the structure was occupied for only a relatively brief period, perhaps corresponding to a segment of the occupation of the nearby Coweeta Creek village (B. Egloff 1967; K. Egloff 1971). The site characteristics, including size, artifact inventory, and location, suggest it is a component of

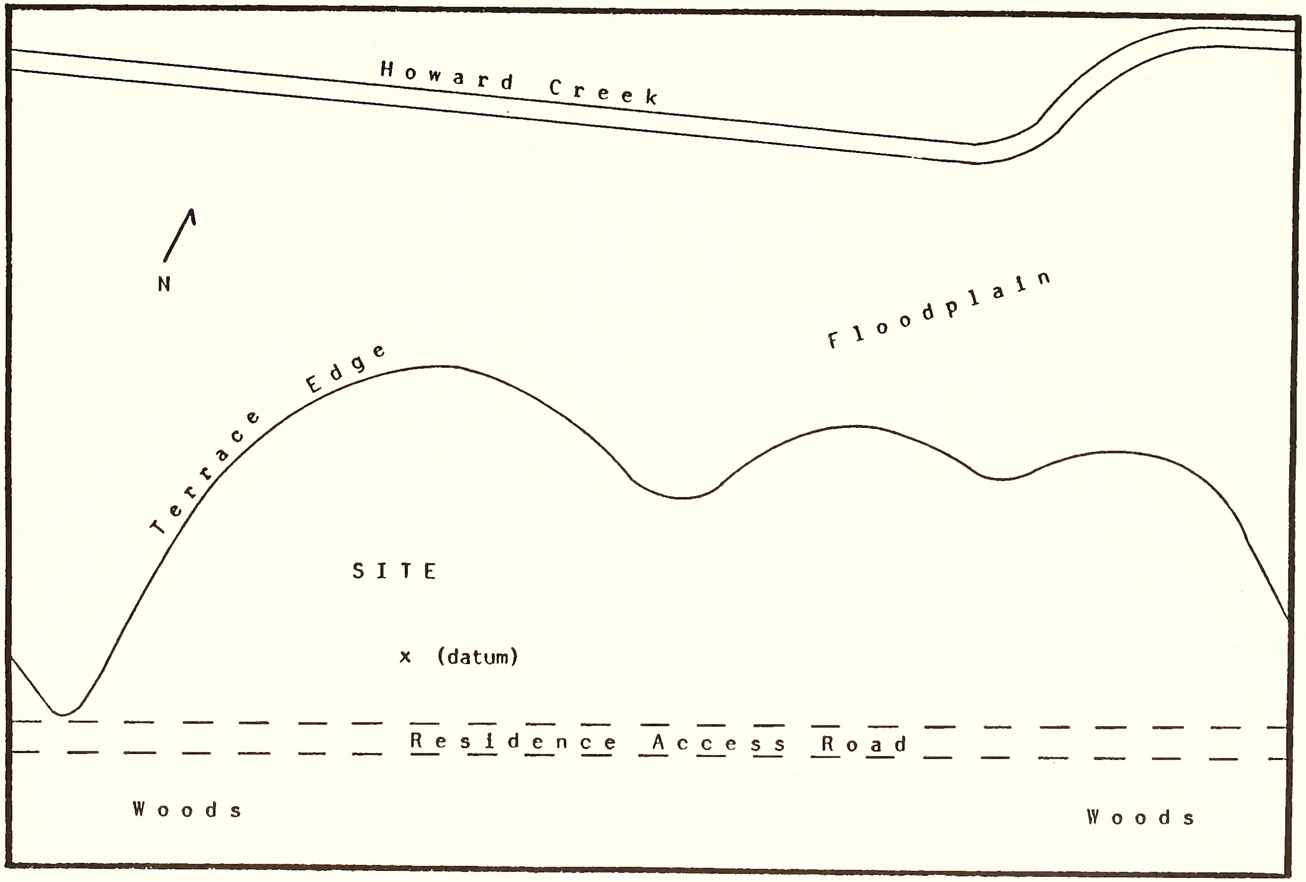

Figure 1. Locality map of site.

a dispersed settlement system. It could represent a small farmstead with adjoining areas (within the limits of the total artifact distribution) representing associated activity loci.

At the time of the fieldwork, the site was "undisturbed," being in a forested area. Both small and large trees, mostly pine (a few as large as 60 cm in diameter), and sparse to moderately heavy undergrowth covered the site. None of the trees were cleared during the investigation; placement of the excavation units was influenced by this factor.

The recent history of the site is unknown. However, based upon the estimated age of the largest trees on the site as well as information provided by local informants, the area is not believed to have been cultivated in modern times. The absence of plow scars in the excavation units supports this assumption. Four historic artifacts of unknown precise age were recovered which suggests some degree of recent disturbance. These include a cut nail, a tin can fragment, a plastic button, and a mule shoe. The latter item may indicate draft animal cultivation during historic times. Most cumulative site disturbance is attributed to tree roots and erosion.

DATA RECOVERY

Little was known about the limits and structure of the site prior to the fieldwork except for the information provided from the initial study (Barber 1980). Initially, several shovel tests were dug at irregular intervals across the terrace to inspect the soil stratigraphy and to estimate the artifact distributions. The stratigraphy of the site was found to consist of: a top humus level ranging between 5-30 cm in thickness; a second more compacted layer of dark brown humus (5-15 cm thick) occurring only in selected areas (interpreted as intact midden); a highly compacted orange clay subsoil with many small rock inclusions. This stratigraphy was subsequently found to be common across most of the site.

Three initial excavation units were placed in widely separated areas of the site to better determine subsurface artifact dispersion and density variability. All soil excavated from these units was screened through ¼-inch hardware cloth. These tests indicated great variability in artifact occurrence in the central area of the terrace and, in addition, uncovered a postmold. All subsequent excavations were concentrated in this general area (Fig. 1).

Figure 2 shows the location of the excavation units. The sequence in which these were investigated is indicated by the identification number. The common unit size was a 2 x 2 m square. The presence of trees, however, often affected both the size and the placement of many of the units.

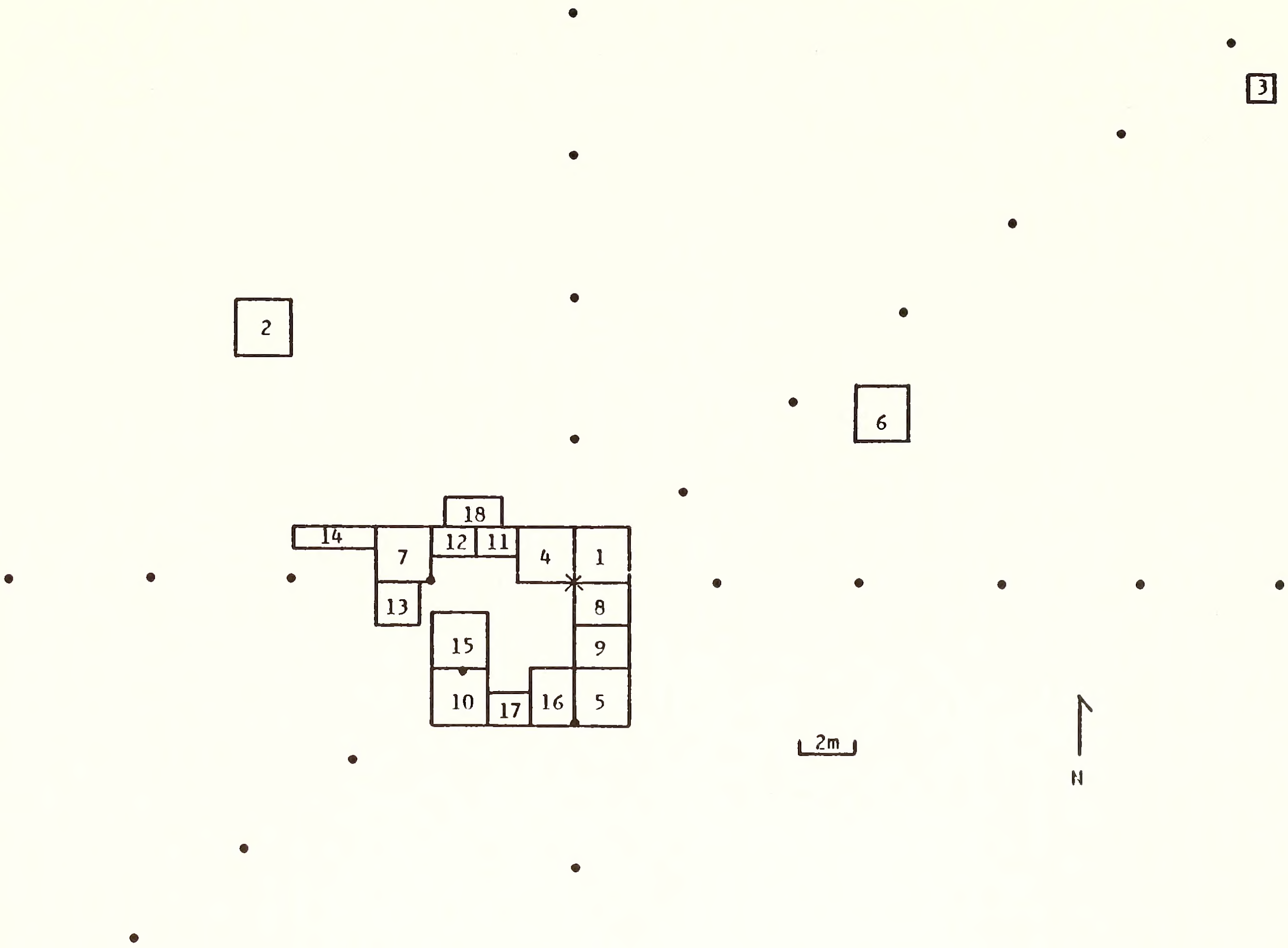

Figure 2. Data recovery units.

The discovery of a feature in Unit 1 (Fig. 2) suggested that structural remains at the site might be located in this area. In addition to the postmold, the increased thickness of the humus level might indicate a cultural midden accumulation. Units 4, 5, and 6 were opened concurrently to provide more complete information about this area. Additional features were found in Units 4 and 5, but no structural evidence and few artifacts were found in Unit 6. The feature in Unit 4 was a second postmold. The Unit 5 feature was a pit. Since any two posts give an alignment, it was necessary to expand the excavations further. Unit 7 was opened and the presence of more postmolds seemed to confirm the presence of a structure wall line.

The previous discovery of the pit feature in Unit 5, as well as the low artifact yield, absence of structural evidence, and shallow humus depth in Units 2 and 6, suggested that the interior of the structure was located south of datum. All subsequent units opened were excavated to determine the size, shape, arrangement, and internal composition of the structure. Unfortunately, information bearing on all these considerations was not obtained.

All units were excavated in 10 cm levels from the surface down to the clay subsoil. Variation in humus-midden depth rendered some "final" levels (just above the subsoil) less than 10 cm in thickness. It was not always possible to detect the midden as a distinct soil layer so the arbitrary levels were preferred given the time limits imposed. Also, unfortunately, features were not usually visible until the clay subsoil was reached providing a contrast in color. Due to time constraints, soil from all excavation units was not screened. Those units screened were Units 1-7 and Unit 10. Soil from all remaining units was removed by shovel shaving. Small hand tools were used when rock concentrations or other disconformities were encountered. All features identified during the excavations, including postmolds, shallow depressions and a pit were dug with small hand tools. Feature soils removed were always screened and in some cases soil samples were retained for flotation.

Another aspect of data recovery included the systematic placement of shovel tests at regular intervals across the site. This procedure was designed to evaluate the distribution of artifacts in a more refined manner than was possible with the limited number of excavation units, and to determine the distribution of anthropic soils. Tests were dug at 5-meter intervals from the datum along three separate transects (Fig. 2). Two transects were oriented in north-south and east-west directions, and a third was oriented at a 50^{o}-230^{o} angle that crossed the primary and adjoining site terraces along their seemingly more habitable portions. Tests were dug to subsoil, all soil was screened through ¼-inch hardware cloth, and a soil sample was retained for phosphorous analysis.

FIELD RESULTS

Data recovery procedures discussed above provided several independent measures of past activity variation at the site. The controlled recovery of artifacts and soils and the identification of a number of features associated with a structure each contributed to a better, albeit general, understanding of the site's occupation.

The controlled recovery of artifacts by screening from several of the excavation units provides some insight into the intensity of site use in different areas. As has been previously mentioned, sherds from ceramic vessels were the predominant artifacts recovered. The variable occurrence of these within those units that were screened is used as one evaluation of differential site area use.

It would seem to be a simple process to assess sherd occurrence (i.e. frequency) variability for different locations. Certainly, many archaeologists opt for simple counting of sherds as the main indicator of some level of activity variation across a given site. There is a problem with this, however, namely that sherds differ considerably in size. It might be considered, for example, whether sherd counts from plowed fields are analytically comparable to sherd counts from buried sites.

A possible solution to this problem is to assess ceramic occurrence by various independent means. The comparison of ceramic occurrences among the screened excavation units followed four separate approaches. One of these was the traditional comparison of ceramic sherd counts. The next comparison was based on arbitrarily set sherd-size categories. The "large" category included those sherds whose surface area was greater than a quarter dollar. The "small" category included the remaining, smaller, sherds. The third comparison is based on ceramic weight per unit. The final comparison is based on ceramic weight per unit volume of earth removed from each screened unit (g/cm^3). Data resulting from these comparisons allow a ranking of ceramic unit occurrence within the various units and are presented in Table 1. As can be seen here, the resulting rankings are all identical. Several implications of these findings will now be discussed.

By all determinations, ceramic occurrences within the screened excavation units (Table 1) display considerable yet consistent variability. These data are interpreted as follows (refer to Figs. 2 and 6). The highest ceramic occurrences exist within Units 1, 4, and 7. The units correspond in location to a series of postmolds. It appears likely, therefore, that the highest concentration of ceramics corresponds to either the immediate inner or outer confines of the structure's north wall. This would possibly suggest either outside discard or inside domestic cleaning towards the structure wall. Units 2, 5, and 10 have the next highest occurrences. Unit 2 occurs near the terrace slope and away from the structure, perhaps indicating a secondary

discard area, but it is also possible that the accumulated artifacts reflect erosion from the higher structure area. Units 5 and 10 are thought to be located within the structure; the middle range ceramic occurrences perhaps indicate domestic maintenance. Finally, Units 3 and 6 have the lowest indices of ceramic occurrence. These units represent areas east of the structure and no doubt represent areas of less intense site use.

Table 1. Ceramic artifact occurrence comparisons by screened excavation units.

Excavation Unit	Sherd Count	Sherd Counts (large/small)	Ceramic Weight (g)	Wt./Unit vol. (g/cm^3)
1	419	98/321	1220	.002
2	122	40/82	615	.001
3	7	2/5	--	.00002
4	361	61/300	1115	.001
5	104	28/76	540	.0007
6	49	13/36	140	.0004
7	572	128/444	1680	.002
10	76	27/49	340	.0004

(Relative Unit Ranking by All Comparisons: 7,1,4 / 2,5,10 / 6,3)

Returning to the methodological problem, it is admitted that with the available data, and possibly due to small sample size, all ceramic occurrence comparisons yielded quite similar results. This is not believed, however, to offset the potential difficulty in comparison discussed above. Variability in average sherd size (measured by weight) per screened excavation unit of common dimension, as well as the percentage occurrence of both "large" and "small" sherds, show significantly different unit ranking than is seen in Table 1 (Table 2). These additional data offer some support to the contention that artifact units of analysis must be defined in keeping with some set of specific questions about a site's (or set of sites) past occupation(s). In the case of ceramics, sherd size ranges and averages should be specified so that meaningful between-site comparisons can be made. On a substantive level, the data presented in Table 2 indicate that average sherd size and frequency might be inversely related at the present site in the vicinity of the structure (see comparative excavation unit ranking).

Table 2. Average sherd size and percentage occurrence of small and large sherds for the screened excavation units.

Excavation Unit	Mean Sherd Size (weight in grams)	Relative Sherd Frequency (large)	(small)
1	2.9	23	77
2	5.3	33	67
3	2.8	29	71
4	3.1	17	83
5	5.2	27	73
6	2.8	27	73
7	2.9	22	78
10	4.5	36	64

(Relative Unit Ranking by Mean Sherd Size: 2,5,10,4,7,1,3,6)

(Relative Unit Ranking by Small Sherd Percent: 4,7,1,5,6,3,2,10; decreasing order shown)

(Previous Unit Ranking in Table 1: 7,1,4,2,5,10,6,3)

Another set of data came from the systematic shovel tests (Fig. 2). Coordinate designations for the individual tests are indicated in Figure 3. The soils removed from these test holes were screened and all artifacts recovered from each test were segregated. Sherds and unmodified rocks, with some firecracked specimens, were the only materials recovered. Figure 4 indicates the frequencies of ceramic sherds recovered from the tests. Although these data are not in themselves conclusive, the higher frequencies of sherds do occur in and immediately about the vicinity of the structure on the site. This finding corroborates the excavation unit data discussed previously. The higher frequency of sherds along the north test line is attributed to slope erosion or possibly to the use of this area along the steep slope as a refuse discard location. Surface finds or ceramic sherds were also abundant in this area.

The shovel tests also served an additional purpose. Soil samples retained from each test location were analyzed for their phosphorous content. Soil phosphorous occurrence is often attributable to human associated wastes (e.g. ashes, feces, garbage, etc.). Following a qualitative technique described by Edit (1973), each soil sample was analyzed and a relative value for its phosphorous content was assigned. Phosphate values for each soil sample location are indicated in Figure 5. It should be noted that these values were assigned relative to one

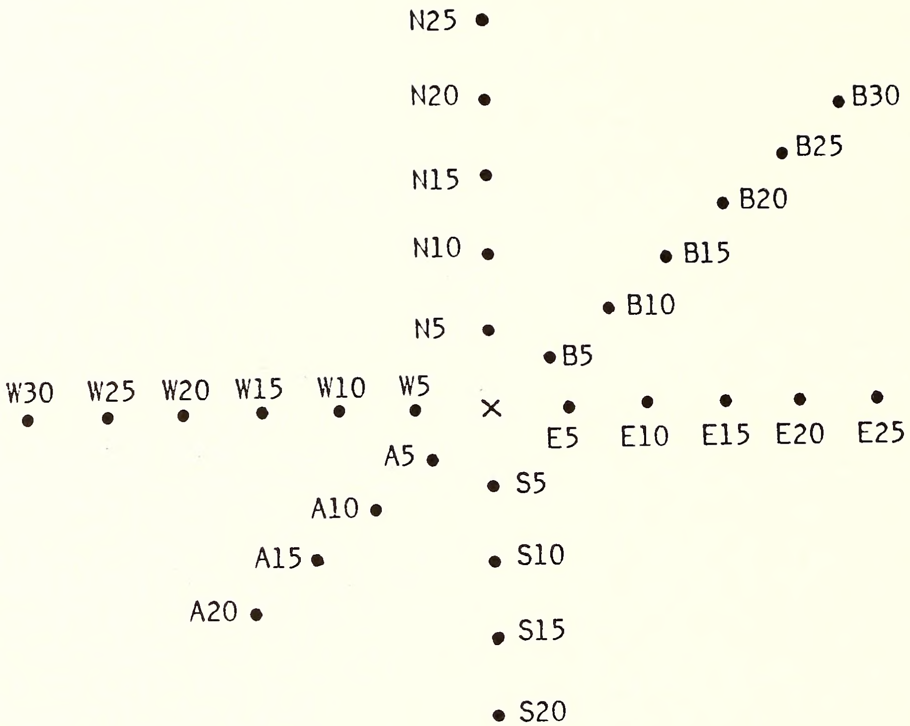

Figure 3. Coordinate designations for shovel tests.

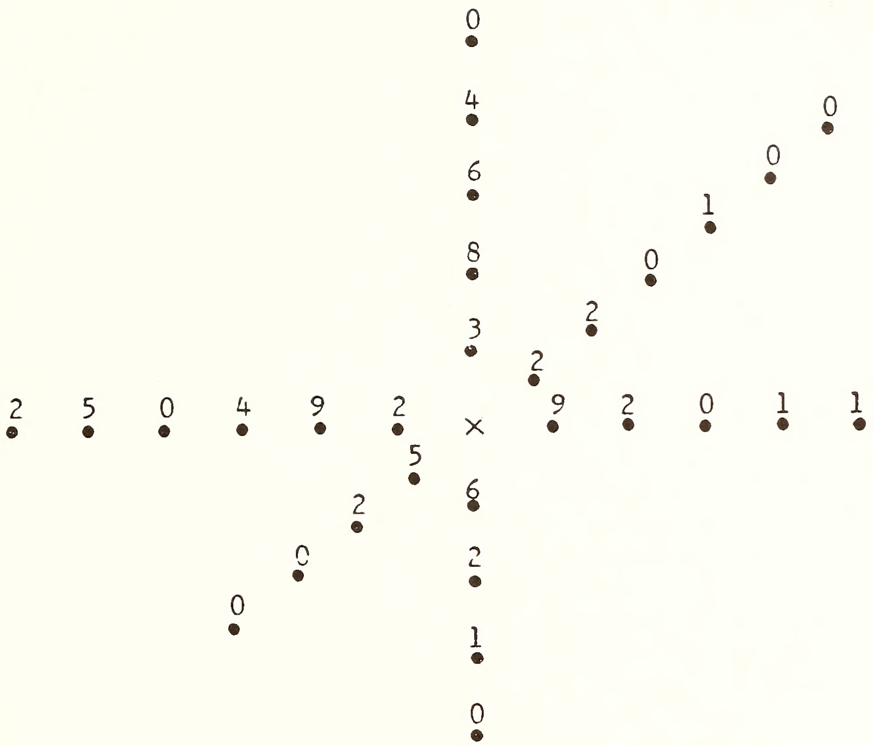

Figure 4. Ceramic sherd frequencies from shovel tests.

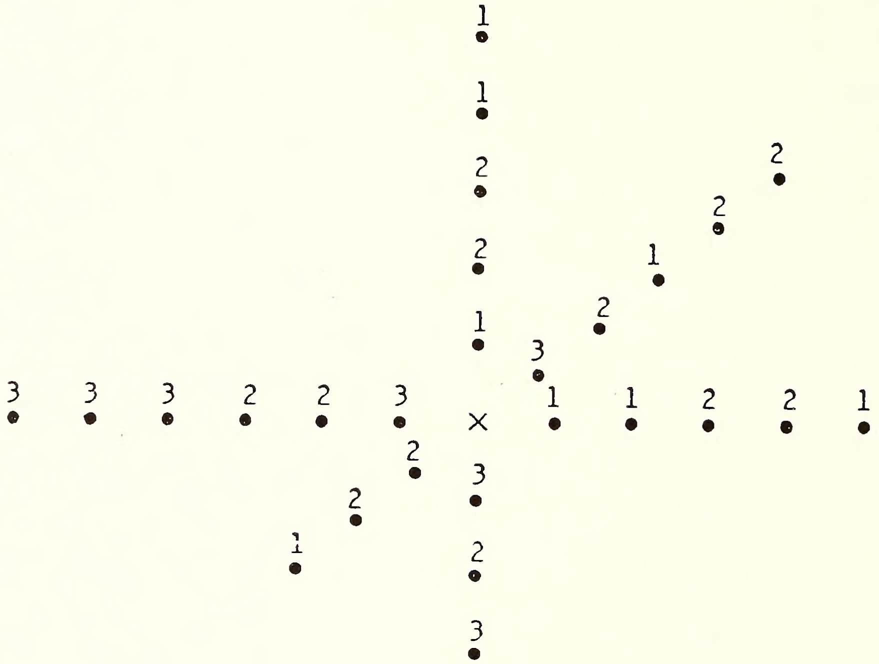

Figure 5. Phosphorous values for soils from shovel tests.

another and that they would not be comparable to soil sample phosphorous values from another site. That is, the technique used only permits comparison of samples analyzed at one particular time and place.

The phosphorous values obtained (Fig. 5) display interesting variability, but this is not particularly clear in meaning. However, the higher values do partially correspond to the location of the structure and the immediate western terrace slope area adjoining it. Minimally, the values support other findings indicating the major western terrace (Fig. 1) as the primary site location.

The structure at the site was identified on the basis of a number of postmolds and several other associated features (Fig. 6). Unfortunately, it was not possible to investigate the entire structure, and thus, only partial information about its size, shape, and orientation is presented.

Features 2, 3, 4, and 6 are shallow, irregular, undulating, darkly stained depressions in the clay subsoil that were filled with midden and charcoal flecks. The depth of these features was 5 to 15 cm below the top of the subsoil. Specific feature depths were not uniform. The actual top points of the features are unknown. None of these features are believed to be purposefully dug facilities. Instead, they may be structure-floor undulations perhaps formed during the digging of postholes. Note that Feature 2, 3, and possibly 4 surround posts. Feature 4 was deeper along its southern margin, although distinctive posts were not found. The soil of these features was like the midden level soil that topped the subsoil in the structure area. The comparatively larger charcoal flecks in all these features indicate that the structure may have burned. A small charcoal fragment of split cane matting, about the size of a half-dollar, was found in Feature 3. Few artifacts, only ceramic sherds, were recovered from any of these features.

Feature 1 (Fig. 6) is a purposefully dug circular pit that in cross-section has the form of a modern metal wash tub. Its top and bottom diameters are 75 and 60 cm, respectively. The depth of the pit is 25 cm. The pit was filled with loosely compacted darkly stained midden soil. Only a few sherds were recovered from the fill. Organic material preservation was poor in this and all other features. The function of this feature is unknown although the well-shaped character of the pit into the clay subsoil suggests its original use may have been for storage. No evidence was recovered indicating the feature was associated with a hearth.

Feature 5 is an area where a number of large rocks, mostly fire-cracked, were found surrounding a large postmold (Fig. 6). The postmold measured 25 cm in diameter and was 55 cm deep. It was the largest postmold discovered. Soil surrounding the rocks and post was very dark and ashy although there was no definite outline to the stained area.

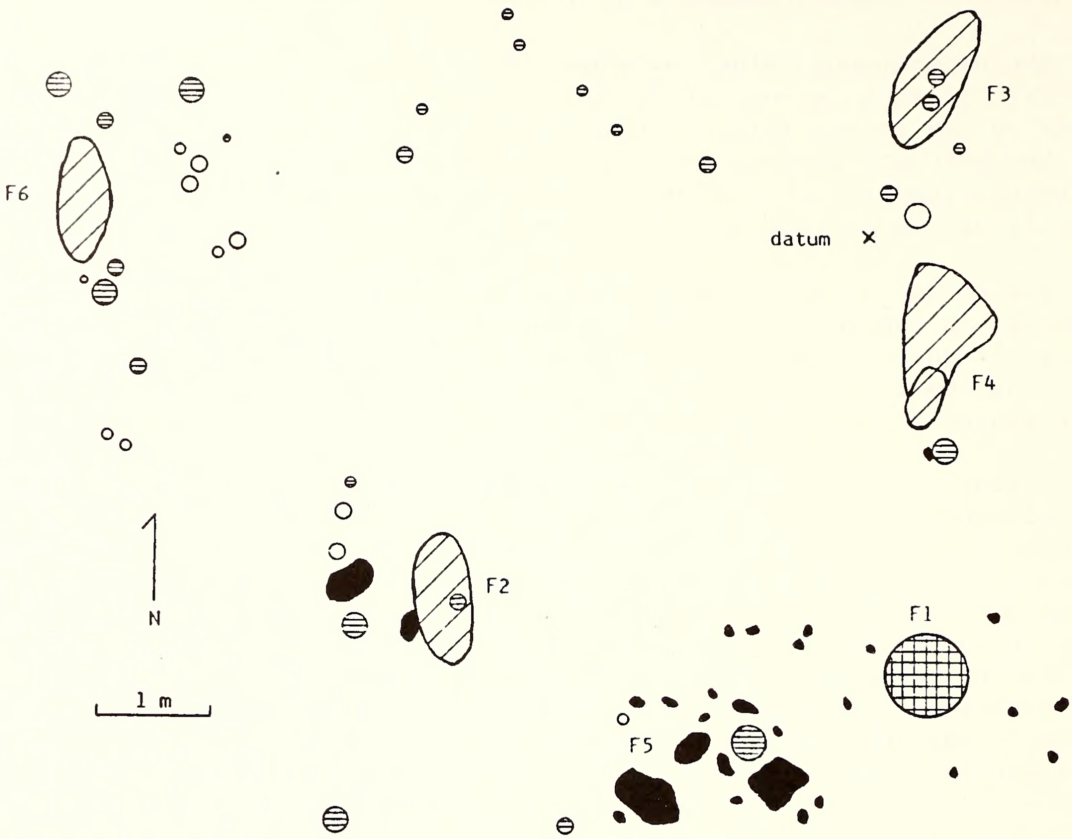

Figure 6. Features associated with the structure at the site. Postmolds are indicated by small circles. Definite postmolds are shaded by parallel horizontal lines; uncertain postmolds are open circles. Five different sized circles represent postmold sizes ranging from 5-25 cm, in 5 cm increments. Features are indicated by number and are described in the text. Black shaded symbols are rocks.

It is not known whether the rocks were used to support the post, or belonged to a hearth. There were no significant amounts of charcoal present in this feature. The large rocks were resting at the midden-subsoil interface on a regular flat plane. The clay subsoil in this and adjoining areas was highly compacted suggesting its correspondence to the original structure floor surface.

A total of 38 postmolds was identified during the excavations. This total includes 25 definite postmolds and possibly 12 additional ones. These latter postmolds were definite circular stains but lacked depth. For the 25 definite postmolds, dimensions ranged between 6 and 25 cm in diameter and, in depth, between 8 and 65 cm. The most common diameter was 15 cm; the most common depth was between 18 and 30 cm. Average postmold diameter was 15.4 cm with a standard deviation of 4.2 cm. Average depth was 28.8 cm; standard deviation was 16.0 cm. These data presumably reflect the selection and use of trees for posts that were of fairly consistent size.

The fill in almost all posts was a very loosely compacted, darkly stained organic soil. Soil was screened for artifacts in all cases. The bottoms of almost all postmolds were slightly undulating to flat. Many postmolds had artifacts (mostly sherds but some rocks) in their fill but not in great or consistent numbers. It was noticed during the careful excavation of several of the deeper posts that the sherd locations varied. In several cases, the sherds lined the postmold walls while in others the sherds were located throughout the fill. The former may indicate the common use of sherds for post chinking; the latter may indicate that the posts were removed from their holes at the time of site abandonment, causing the sherds to become strewn throughout the postmolds. Unfortunately, these observations were not consistently made for all postmolds, and thus firm conclusions from these data are not possible.

The overall spatial pattern of the features identified is not very clear. In the case of the postmolds, several approaches were used (e.g. using postmold dimensions and contents) in the attempt to discern an alignment that would indicate the structure's size and shape. These attempts, however, were not very successful. It is believed, nevertheless, that certain conjecture can be offered concerning the character of the structure.

The general east-west series of posts between datum and Feature 6 (Fig. 6) are thought to represent the northern wall of the structure. The smaller posts in the near middle of this series may be the remains of a doorway. The large posts in the vicinity of Feature 6 may represent a corner of the structure although large trees south of Feature 6 precluded investigating the presence of a north-south alignment. If this were the case, however, the large deep posts in the vicinity of Features 2 and 5 might possibly represent interior posts. The irregular spacing of these relative to the presumed alignments would support

this argument. Also, the largest post found in Feature 5 might be assumed to have been at or near the structure center, thus placing it and Feature 1 in the central floor area. The compacted nature of the subsoil in this area is added support for this conclusion.

Based on available data, it is suggested that the structure was rectilinear in shape. The north-facing orientation of the structure would certainly correspond to the orientation of the terrace on which it is located, that is, facing Howard Creek. The structure extends for an unknown distance to the south of Feature 5. The increased depth of the humus-midden level in this area is support for this contention. With respect to the size of the structure, little is known about exact dimensions. The minimal east-west dimension, from the post northwest of Feature 6 to the northern post in Feature 3, (Fig. 6) is approximately 7.75 m. The presence of a corner in the area of Feature 6 seems substantiated by the negative results in Unit 14 (Fig. 2); no additional posts were found there.

In addition, the paucity of postmolds at this site compared with the high density of postmolds at other late prehistoric/early historic structures investigated in the region (see structure drawings and photographs in Dickens 1976 and Keel 1976), indicates that little if any structure rebuilding took place on this site. This further substantiates the inference that the occupation was comparatively short-term.

A charcoal sample obtained from the postmold immediately to the north of Feature 6 was submitted to the University of Georgia for C-14 analysis. The results indicated that the charcoal is "modern." While the shape of the postmold and its artifact content are conclusive for its actually having been a post, the charcoal no doubt represents a recent tree intrusion, later burned. None of the other postmolds yielded charcoal of similar quantity. Unfortunately then, absolute chronological placement of the site is not possible.

LABORATORY ANALYSIS

All cultural materials recovered during the excavations were washed, sorted, catalogued, and classified according to usual archaeological laboratory procedures. Data resulting from this process will now be discussed.

Soil recovered from selected features was processed in the lab by a water flotation-screening technique. The apparatus used was a metal tub the bottom of which had been replaced with window screen. The purpose in water-screening the soil was to determine the presence of organic material remains within the features. Remains recovered are listed in Table 3.

Table 3. Materials recovered from the flotation of feature soil.

	Feature Designation					
	PM1(1)	PM1(7)	PM2(7)	PM1(12)	F1	F3
Rocks	+	+	+	+	+	+
Charcoal	+	+	+	+	+	+
Sherds		+	+	+	+	+
Bone			+		+	
Seeds	$+^2$	$+^2$	$+^2$	$+^4$	$+^2$	$+^3$
Chert Flake	+	+		+		

Note: Plus sign (+) indicates presence of material. Number in seed category indicates the number of seed types present.

The preservation of organic materials was generally poor. The clay subsoil into which the postmolds and other features were dug no doubt served to hold water during rainy seasons, a situation that when alternated with dry conditions promotes the decay process. Besides small rocks, tiny ceramic sherds, and a few very small chert flakes, some charcoal, seeds and bone fragments were recovered. Unfortunately, none of the organic items could be positively identified as to species. Five different types of tiny seeds were recognized during analysis by a Western Carolina University biologist. These represented separate wild plant species, but the exact species are not known. The bone recovered was unidentifiable due to the small size of the few recovered fragments.

As indicated previously, sherds from ceramic vessels are the most prevalent artifact recovered from the site. Although a small percentage of these are of unique sherd types, most sherds recovered were of the Qualla series (Egloff 1967). This series includes sherds that exhibit large complicated stamped designs and bold incisions, both poorly executed. The design elements are similar to ceramics of the Lamar style horizon (Wauchope 1966). Sherds of this series are grit tempered.

In classifying the ceramic sherds, a catchall category (i.e. unidentifiable) was established that included eroded, seemingly plain, or otherwise unidentifiable specimens. The stamped category includes both curvilinear and rectilinear designs with curvilinear varieties most prevalent. Most of the incised sherds exhibit bold imperfect parallel lines, while two specimens are "scratched" incised. One incised sherd is very highly burnished. The "other" category includes one simple

stamped sherd, four fabric impressed sherds, one plain noded specimen, and one cane punctated sherd. Rim sherds were not subclassified. Most rims are folded and finger pinched or impressed with frequent fingernail punctations. The sherd type frequency distributions are presented in Tables 4-6.

Table 4. Ceramic sherds recovered from excavation units.

Unit	A	B	C	D	E	F	G
Surface	79	2	38	0	119	5	124
1	165	7	159	1	332	20	352
2	90	0	89	0	179	12	191
3	3	0	3	0	6	1	7
4	110	4	217	0	331	13	344
5	39	1	58	1	99	5	104
6	27	0	22	0	49	0	49
7	244	4	373	0	621	21	642
8	13	1	23	0	37	0	37
9	4	0	3	0	7	1	8
10	42	0	33	0	75	2	77
11	11	0	14	0	25	2	27
12	11	0	15	1	27	7	34
13	21	0	14	0	35	0	35
14	14	0	7	0	21	0	21
16	16	0	0	0	16	1	17
18	2	0	2	0	4	1	5
Totals	891	19	1070	3	1893	91	2074

Key: A, stamped sherds; B, incised sherds; C, unidentifiable; D, other; E, total body sherds; F, rim sherds; G, total sherds.

Table 5. Ceramic sherds recovered from postmolds.

Postmold (Unit)	A	B	C	D	E	F	G
1 (4)	10	0	9	2	21	1	22
1 (7)	4	0	10	0	14	3	17
2 (7)	3	0	3	0	6	0	6
1 (9)	1	0	3	0	4	0	4
1 (10)	0	0	3	0	3	0	3
1 (12)	16	0	5	0	21	0	21
2 (12)	2	0	1	1	4	0	4
1 (13)	2	0	0	0	2	1	3
2 (13)	8	0	3	0	11	0	11
3 (13)	16	0	4	0	20	0	20
1 (14)	3	0	0	0	3	1	4
1 (15)	0	0	7	0	7	1	8
1 (16)	7	0	10	0	17	1	18
1 (17)	2	0	0	0	2	0	2
1 (18)	2	0	0	1	3	0	3
2 (18)	1	0	0	0	1	0	1
Totals	77	0	58	4	139	8	147

Key: A, stamped sherds; B, incised sherds; C, unidentifiable; D, other; E, total body sherds; F, rim sherds; G. total sherds.

Table 6. Ceramic sherds recovered from Features 1-5.

Feature	A	B	C	D	E	F	G
1	6	0	5	0	11	2	13
2	19	1	15	0	35	3	38
3	3	0	0	0	3	0	3
4	0	1	2	0	3	0	3
5	8	0	1	0	9	0	9
Totals	36	2	23	0	61	5	66

Key: A, stamped sherds; B, incised sherds; C, unidentifiable; D, other; E, total body sherds; F, rim sherds; G, total sherds.

Four additional ceramic items were recovered. One of these is a cylindrically-shaped specimen; slightly curved, that may be a vessel loop handle, or possibly, a discarded ceramic coil. It measures 11 mm in diameter and 30 mm in length. The remaining three items are worked sherds. One is an oval disc measuring 28 x 32 mm in diameter. The other two items are fragmentary discs having edges that are bevelled from the outer to the inner surface. This shape, apparently produced purposefully, would seemingly allow these items to have functioned as lids or "stoppers" for a vessel. Other ceramic items recovered included small pieces of burned clay daub that were present in all excavation units in the vicinity of the structure.

Surprisingly, very few flaked stone artifacts (n=32) were recovered at the site. The distribution of these within the excavation units is indicated in Table 7. Most of these artifacts were made of coarse quartzite (n=25, 78%), a raw material that is locally available. The other stone artifacts were made of chert (n=7, 22%). Six pieces are of a light to dark grey fine-grained material while the other piece is creamy in color and somewhat granular. Neither type of chert occurs locally.

Most of the flaked stone artifacts are debitage representing by-products of stoneworking. Only three complete quartzite flakes were found; the remaining quartzite debitage consists of broken flakes and angular pieces. The four pieces of chert debitage include two broken flakes and two complete specimens, one of which was produced by a bipolar flaking technique.

Table 7. Frequency distribution of flaked stone artifacts.

Unit No.	Bifacial Tool	Unifacial Tool	Debitage	Totals
Surface	1	0	0	1
1	1(c)	1	0	2
2	0	1	1(c)	2
4	0	0	3(1c)	3
7	0	0	2	2
9	0	1(c)	2	3
11	0	0	1	1
12	0	0	3(1c)	3
13	0	1	0	1
14	0	0	4	4
15	1	0	0	1
16	0	0	2	2
17	0	0	1	1
18	0	1	0	1
PM1 (10)	0	0	2(1c)	2
PM1 (F2)	1(c)	0	2	3
Totals	4	5	23	32

Note: Notations in parentheses indicate the number of chert artifacts of the total in a given category.

Four bifacial, flaked tools were found. One of these is a complete chert projectile point recovered from the postmold in Feature 2. It is a small thin arrowpoint with a slightly rounded base, slightly excurvate parallel blade edges, and a slightly rounded tip. The blade edges are serrated for half their length along the distal end of the point. The specimen is 38 mm long, 14 mm wide at the midpoint and 3.6 mm thick. A second point found is incomplete being represented only by its acutely pointed tip. This item was manufactured from the creamy-colored chert described above.

The one quartzite biface recovered was roughtly triangular in shape although its point had been broken. This item is well made even though the raw material is rather coarse. The biface measures 50+ mm in length,

30 mm in width at the estimated midpoint, and 11 mm thick. The basal width of the specimen was 35 mm.

The final bifacial tool is a large quartzite chopper-like implement that was recovered from Feature 2. The greatest dimension of this oval shaped piece is approximately 15 cm and its weight is between 2-3 kg. The natural shape of the piece is modified only slightly by flaking, but the edges are uniformly sharp around the margin. The size and shape of this tool suggest some sort of heavy duty use such as chopping or digging.

Only one of the unifacial tools recovered was made from chert. This tool is a steep-edged scraper with a convex working edge. The angle of the scraping edge is between 75^{o}-80^{o}. The specimen is 27 mm long, 23 mm wide, and 12 mm thick. Step fractures along the margin edge suggest this implement was used to process resilient materials.

The other specimens identified as "tools" may or may not actually have been implements. Only one of these, a flake, had definite retouch on its margin and probably served as a knife. The remaining items were broken flakes or angular chunks with edges possibly retouched to form scraping implements. The difficulty of distinguishing purposeful from inadvertent retouch on coarse, translucent quartzite precludes firm conclusions on this matter.

Six additional stone items were recovered that could be definitely identified as artifacts. These include two round fist-sized quartzite hammerstones and a third small flat oval hammerstone of the same material, battered on one end. One fragment of a ground stone disc was found, as well as an unmodified piece of nonlocal slate. The final stone artifact came from Postmold 1 in Unit 10 and may be a digging tool. This item is a tabular rectangular piece of schist measuring 20 x 7.5 x 3.5 cm with "flaked" ends.

Miscellaneous small rocks were recovered from all excavation units, and many of these, especially those from the structure, evidenced firing. Unfortunately, these were recovered inconsistently in the excavations, and thus were not analyzed quantitatively. The greatest concentration of firecracked rock was in Units 5 and 16 (Fig. 6).

The analysis of artifacts and soil from the site revealed no unusual or especially significant distribution or association of items. Perhaps the most unusual find was the near absence of stone tools and debitage, a situation that is uncommon at late prehistoric sites in the region. One interesting aspect of the ceramic study not mentioned previously concerned the thickness of measured sherds. A large sample of 531 sherds representing various defined categories was measured. Comparison of decorated versus plain (i.e. eroded, unidentifiable) sherd figures revealed similar mean thickness (6.9 and 7.0 mm, respectively), however, the standard deviation for the non-decorated sherds was higher

(2.3 versus 1.2 mm). This might indicate greater variability in vessel form and mode of manufacture for the more utilitarian wares, although more comparative data are certainly needed.

SUMMARY

Archaeological investigations at WCU225 (WA-1-80) resulted in the identification of a domestic structure and the delineation of the site as a small habitation area. It is not known how long the site was occupied, but evidence was found suggesting the occupation was for a relatively short period. Neither is it known exactly when the site was occupied. Ceramics from the site indicate either a late prehistoric or early historic occupation. Qualla ceramics were manufactured from about A.D. 1500 to 1908 (Keel 1976:215). However, the absence of Euro-American trade items at the site seems to indicate a late prehistoric occupation. On the other hand, the paucity of lithics could be indication of later occupancy. In short, precise chronological placement of the site, either before, during, or after white contact, is not possible.

Many other Qualla phase sites in this region also yield high quantities of chert artifacts. Because this chert is not locally available, it might be that for a portion of the Qualla phase, some network of exchange existed to distribute this material. Therefore, the few chert artifacts at WCU225 might indicate a time when this network was breaking down or had failed altogether. The breakdown of other aspects of indigenous life after European contact has been suggested by Dickens (n.d.). The small size of this site and its relative isolation compared to other large nucleated village sites in the area support this suggestion.

One additional aspect of the present study concerns possible past environmental variation that may have characterized the area. This was approached through a catchment analysis performed on areas surrounding the site. For comparative purposes, catchment analyses were also performed on areas surrounding two other Qualla sites located nearby, along the Little Tennessee River. WCU225 was the smallest of theses; the two remaining sites (WCU175 and WCU4) were the medium and the largest sites, respectively. The purpose of the analysis was to determine what catchment area variability existed around late prehistoric Qualla sites of varying size. It is considered possible that this might correlate with different sizes of past population aggregates. Since it was assumed that these late prehistoric populations were subsisting at least in part on agriculture, it was expected that larger amounts of arable soils would be located around the larger sites.

Using Macon County soil maps (USDA 1956), an 800-meter radius circle was drawn around each of the three sites. Within the circles, areas of different soil types were computed and percentages tabulated. The soil types were defined in terms of increased "workability"

reflecting increasingly arable lands (judged in terms of modern agricultural standards). The hypothesis stated above was not confirmed. There were no significant percentage differences in arable soils within the catchment areas of the three sites. One interesting difference was found, however, in the number of different types of soils occuring within the three catchment areas. Twenty-six soil types occurred around WCU225 while 33 and 30 types occurred surrounding the medium and largest sites, respectively. Although the trend is not linear, an increased number of soils do occur around the larger sites. Because soil types relate to past vegetation, it is presumed that greater plant and animal variability would have been present around these sites. Whether these data reflect purposeful site selection is a matter that must await similar types of future evaluation.

In this study, many more questions arose than were possible to investigate fully. However, several research problems were investigated resulting in at least a partial understanding of the site. Further research is always needed, and it is hoped that information provided in this report will be useful for future investigations.

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AN ARCHAIC QUARRY AND STONE KNAPPING LOCATION ON THREE HAT MOUNTAIN, NORTH CAROLINA

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INTRODUCTION

North American Indians relied heavily on stone as a basic material from which to shape a wide variety of tools and ceremonial objects. When an archaeologist excavates a prehistoric Indian camp or village it is often apparent that the one or more Indian groups which inhabited the site during various distinctive periods or phases preferred certain kinds of stone for the manufacture of utilitarian or ritual objects. It is not always so obvious, however, whether the selection of a particular kind of stone was determined by its proximity to the habitation site, its excellent quality, its aesthetic properties, its procurement from a special trading partner, or some kinship, religious, or sentimental attachment which the group felt toward the particular stone material. Furthermore, the acquisition of a particular kind of stone may have involved different sorts of technologies and socio-political relations. Appropriate raw material may be picked up on the surface or mined in several different ways. It may be acquired over long distances through intermediaries in a complex trading network, or through direct expeditions to the source. Furthermore, the material obtained may be in various stages of reduction, from rough pieces of raw material up to a finished product, and the control of the source or distribution of the material in raw or finished form may reflect the political system operating in a region. It is for such reasons that archaeologists are interested in locating and studying the sources of raw stone material which were exploited by North American Indians. This is a report on one such source recently investigated in Davidson County, North Carolina, designated site DV-51.*

The area of the prehistoric quarrying and stone knapping activities to be described is along the southwestern flank of the Three Hat Mountain ridge which is located on the eastern central portion of Davidson County, approximately 13 km. south of Thomasville, North Carolina (35° 08'03" latitude, 80° 08' 00" longitude). The ridge trends northwest to southeast, with the highest of the three separate peaks on the southwestern end, rising to an altitude of 360 m above sea level. An extensive system of small streams and gullies drain all sides of the ridge, with several natural springs on the western slope (Fig. 1). A creek called Flat Swamp winds its way through marshy flatlands at the base of the mountain on the northeast side. Marshes and thickets at the base of the mountain give way to climax vegetation up the slope. If this range of variation in ecological microenvironments was the same during Archaic times, the area would have provided several exploitable resources attractive to Archaic Indian groups.

We first inspected Three Hat Mountain on April 20, 1975 and, during subsequent trips, managed to locate six areas where waste flakes from stone knapping are densely concentrated (Fig. 1). There may be other such areas along the southwestern flank of the ridge which were not found in our surveys due to incomplete inspection of the entire

**Permanent State site number 31Dv51*

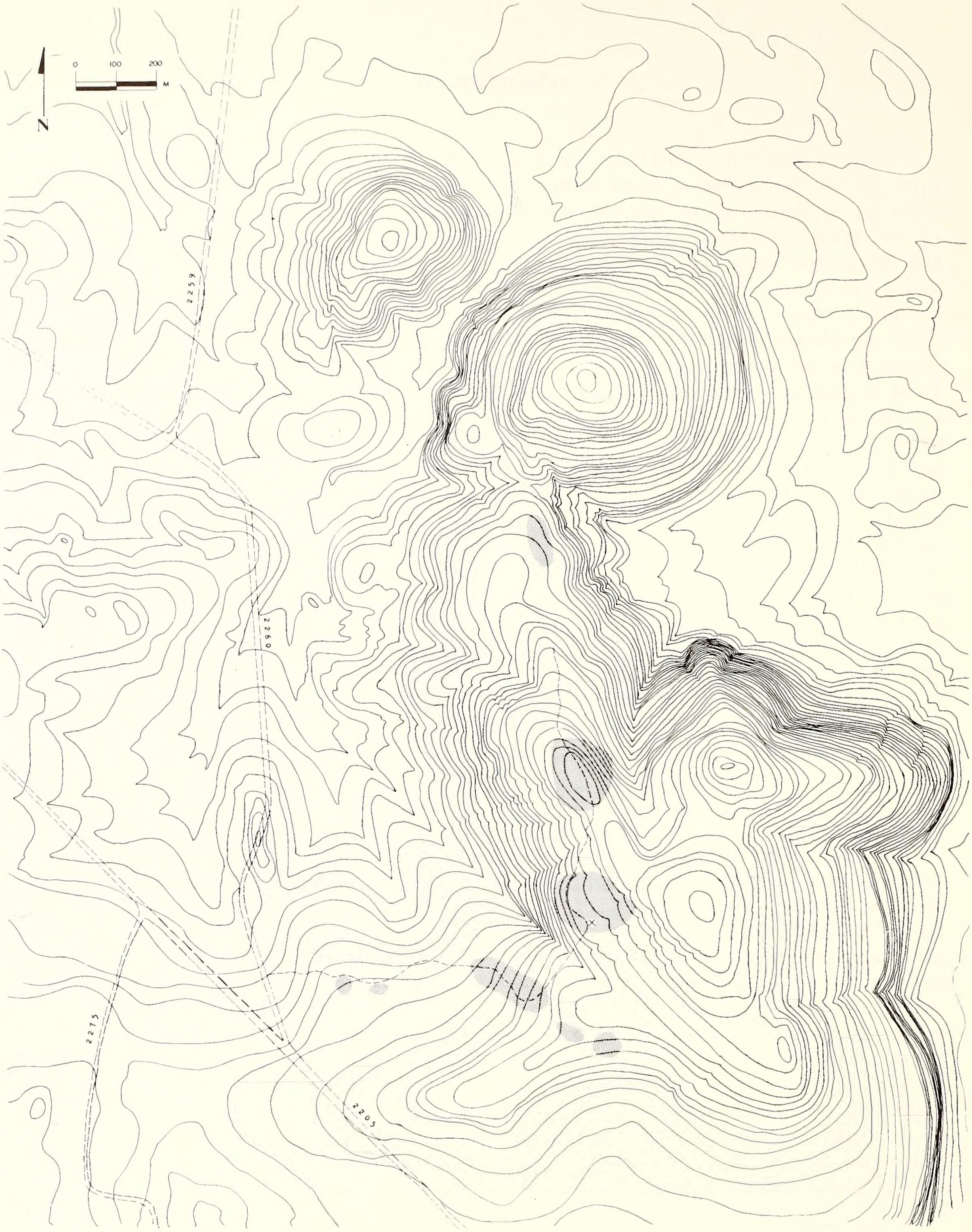

Figure 1. Map of Three Hat Mountain, showing the areas of lithic debris concentration in the DV-51 site, and the location of the test pit excavation marked X. This map was produced through topographic interpretation of an aerial photograph, utilizing a United States Department of the Interior Geological Survey 7.5 minute series topographic map as a guide. The contour interval is approximately 3.05 meters.

area and the heavy vegetational ground cover over most of the mountain.

THE GEOLOGY OF THREE HAT MOUNTAIN AND THE TEST PIT AREA

In 1978, Jeri Jones, geologist at Catawba College, and Professor Peter Cooper, Catawba College Archaeologist, both visited the site with us and offered helpful observations on the geology of Three Hat Mountain. Mr. Jones provided us with a written report on the geology of the site area; the following discussion relies heavily on Jones' (1979) report.

Three Hat Mountain is located on the Silver Hill Fault which is part of a larger geological unit known as the Carolina Slate Belt or the Uwharrie Volcanic Belt. This belt extends southwest to north-east approximately four hundred miles from central Virginia to central Georgia, with the Silver Hill Fault lying on its western edge. The rocks of this belt are generally metasedimentary and metavolcanic and could have provided an abundance of lithic raw materials for Indian groups (Jones 1977).

According to Jones (1979), the rocks examined consist of crystal and lithic tuffs, basically cryptocrystalline rhyolites and argillites (altered volcanic mud). Based strictly on hand specimens, no volcanic flows were observed; most of the material was deposited as ash. These rocks are light gray to grayish black in color, with much variation from outcrop to outcrop. In addition, some green and very light gray tuffs were observed, but their occurance is rare for the most part. The rocks weather to form a white to light cream cortex in spheroidal weathering. Some small outcrops exhibiting blocky weathering were also noticed.

The lithic tuffs (vitric, felsic, felsic crystal and breccia) are similar to composition to the crystal tuffs, however, the feldspar fragments tend to be slightly larger in the former. Grain size of the tuffs range from fine grained (less than 0.75 mm in size) to medium fine grained (0.75 mm to 1.0 mm in size). Quartz is the most abundant mineral identified among the crystal tuffs. Orthoclase feldspar with small amounts of albite occurs in many of the rocks as phenocrysts. The crystals are white to light pink in color and are euhedral in shape, measuring up to 1.5 mm in length. Pyrite occurs as small grains and cubic crystals in green tuffs on the southwest slope of the mountain. Iron oxide is also present in most of the rocks as granular masses or stains. Mica occurs as very small shiny plates of green and black.

Several samples of crystal tuffs exhibit slickenslide features and polished surfaces. These features are strong evidence for local faulting; some faults have been mapped to the west and northwest of the site (Stomquist et al. 1971). Rocks bordering the local faults were apparently infiltrated with additional silica producing veins of especially fine-grained rock with homogenous texture. Veins of

this type would provide excellent raw materials for tools manufactured by flaking. Numerous quartz veins cut through the tuffs on the mountain supplying the necessary silica for this upgrading process. These veins range in thickness from less than one cm to 10 m, the largest of these being located on the westernmost peak, striking eastward toward the highest peak (Fig. 1). Aboriginal groups seem to have been able to distinguish these geological features and exploited them for high quality raw material. Although nodules of fine grained rock outcrop on the surface of the mountain, it appears to us that stone mining and knapping activities occurred primarily near the head of gulley cuts where veins or nodules of this fine material were exposed (Fig. 1).

We now turn to a discussion of our test pit excavation at one of these mining and knapping locations, along with the results of our analysis of the excavated artifacts.

THE TEST PIT EXCAVATION

In the Fall of 1975, one of the waste flake areas was selected for subsurface testing. We chose a spot on the eastern edge of a logging road which exposed approximately 1 m of soil profile which showed four distinct artifact-bearing strata. At this spot (Fig. 1), we plotted a two-meter square and, with the aid of UNC-G students, excavated the deposit from the square over the course of six Saturdays.

The test pit excavation was intended to answer three questions: 1) were the strata formed during distinctly different phases of occupation on the site; 2) could any of the strata be dated through the presence of chronologically diagnostic artifact types; 3) what prehistoric activities could be inferred from the study of a controlled excavated collection of artifacts?

The first step in the test pit excavation was to shave the road cut profile back to the east and down to 1.25 m depth, to expose the western face of the two meter square (Fig. 2). Then a profile was drawn of the strata (Fig. 3) before proceeding to strip off the natural layers moving eastward. The layering of the deposit, which had seemed so clearly defined at that spot along the road cut, blurred somewhat by the time we had cleaned back to the 1.25 m flat profile. Excavating each natural layer in turn from the western face of the square back to the eastern face, the stratigraphic layering became disturbingly vague in some areas, although layer #2 was rather clearly defined throughout the cut (Fig. 4).

Layer #1 ranged in color from light tan to reddish clayey soil, with lots of charcoal flecks and roots, plus some waste flakes and large rough rocks. The layer extended down to an average depth of about 20 cm from the surface.

Figure 2. Photograph of the western face of the two-meter test pit square after the profile had been shaved back from the road cut and prior to the excavation of the test pit square.

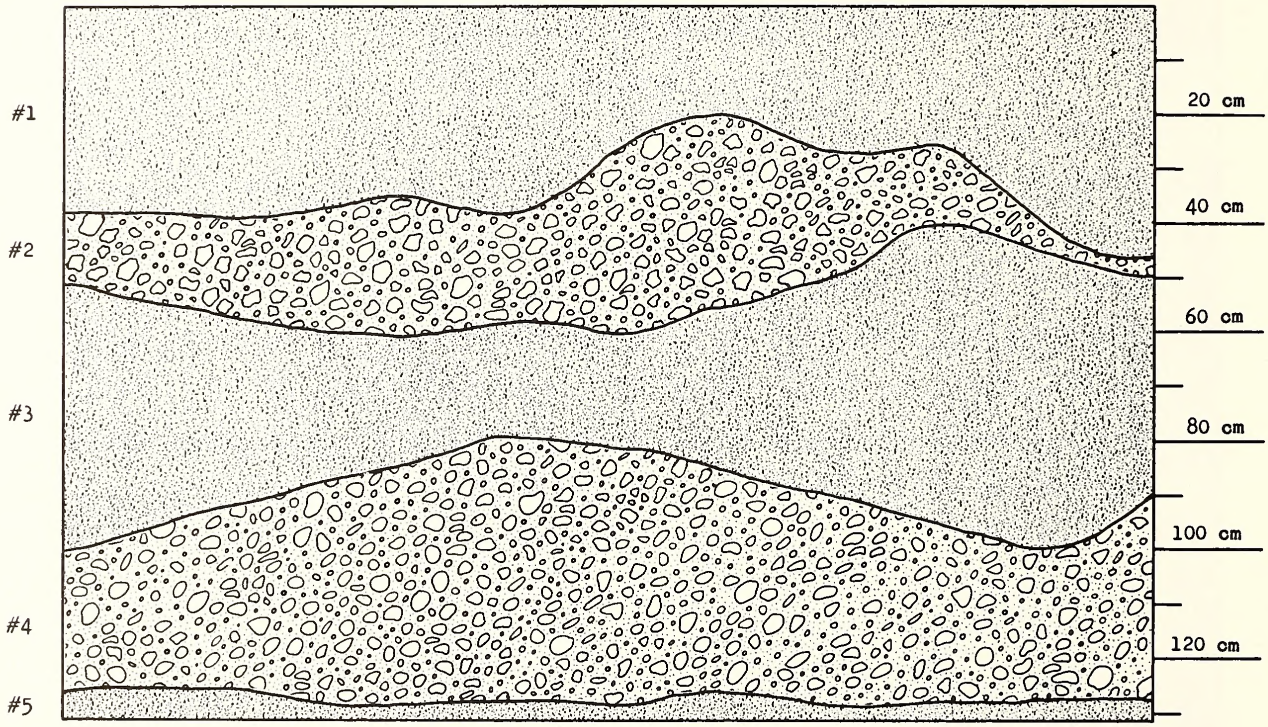

Figure 3. Drawing of the strata visible in the western face of the two-meter test pit square prior to the excavation of that square.

Layer #2 was a lighter colored yellowish mottled soil, with abundant waste flakes and rough rock. The larger waste flakes appeared to be concentrated on a well defined line at the bottom of the level, at 63 cm to 64 cm depth, with the small flakes, often found in tight-packed lenses, bedded horizontally on top of them in the upper portion of the level. There were also pockets of conglomerated pebble gravel within this layer. The base of one projectile point (Fig. 5a) was found in the southeast corner of the square at a level of 35 cm from the surface of the ground; a second projectile point (Fig. 5b) came from the northeastern quadrant of the square at a depth of 50 cm; a third and a fourth projectile point (Fig. 5c, d) were found at a depth of 55 cm in the northwestern quadrant separated by only 9 cm, and 23 cm northeast of a concentration of charcoal fragments. A fifth projectile point (Fig. 5e) was found immediately upon beginning the excavation of layer #3, at a depth of about 55 cm from the surface of the ground in the southeastern quadrant of the square, and should probably be considered to pertain to layer #2.

Layer #3 was composed of light yellowish mottled gray clayey soil, with relatively few rocks, most of which were large and few of which were waste flakes. Small concentrations of waste flakes were noted in the south central and northeast corner of the square. This level ended about 72 cm below the surface.

Layer #4 was stiff yellow clay with areas of gray clay, especially in the southeast corner of the square at a depth of 73 cm or more. What might be part of a hearth, with 5 large rough rocks and abundant tiny specks of what appeared to be charcoal, was found in the central part of the southwest corner of the square at a depth of 85 cm. The level terminated at about 90 cm depth from the surface.

Layer #5 was a very stiff yellow clay with many large angular rocks. Excavation below the level of 100 cm was extremely difficult, and could only be accomplished by using picks down to a level of 130 cm.

The 16,552 artifacts excavated from the test square were taken to the UNC-G Archaeology Laboratory where they were washed, labeled, and sorted by students under the direction of Professor Joseph B. Mountjoy. The final sorting and classification of the artifacts was accomplished by Professor Joseph B. Mountjoy and Lawrence E. Abbott, Jr. in 1980 and 1981, aided by comments from Professor Joffre Coe, UNC-CH, and Professor Peter Cooper, Catawba College, who both inspected some of the material.

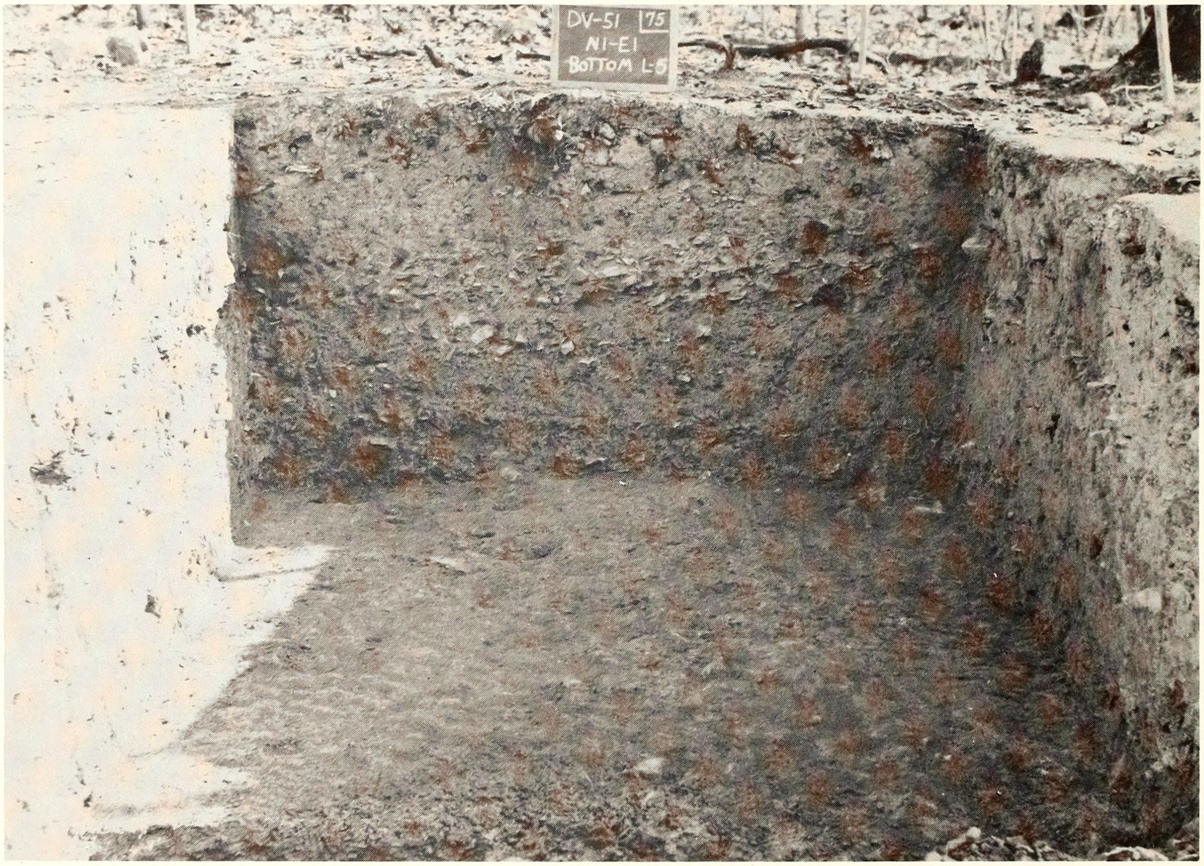

Figure 4. Photograph of the eastern profile of the two-meter test pit at the completion of the excavation

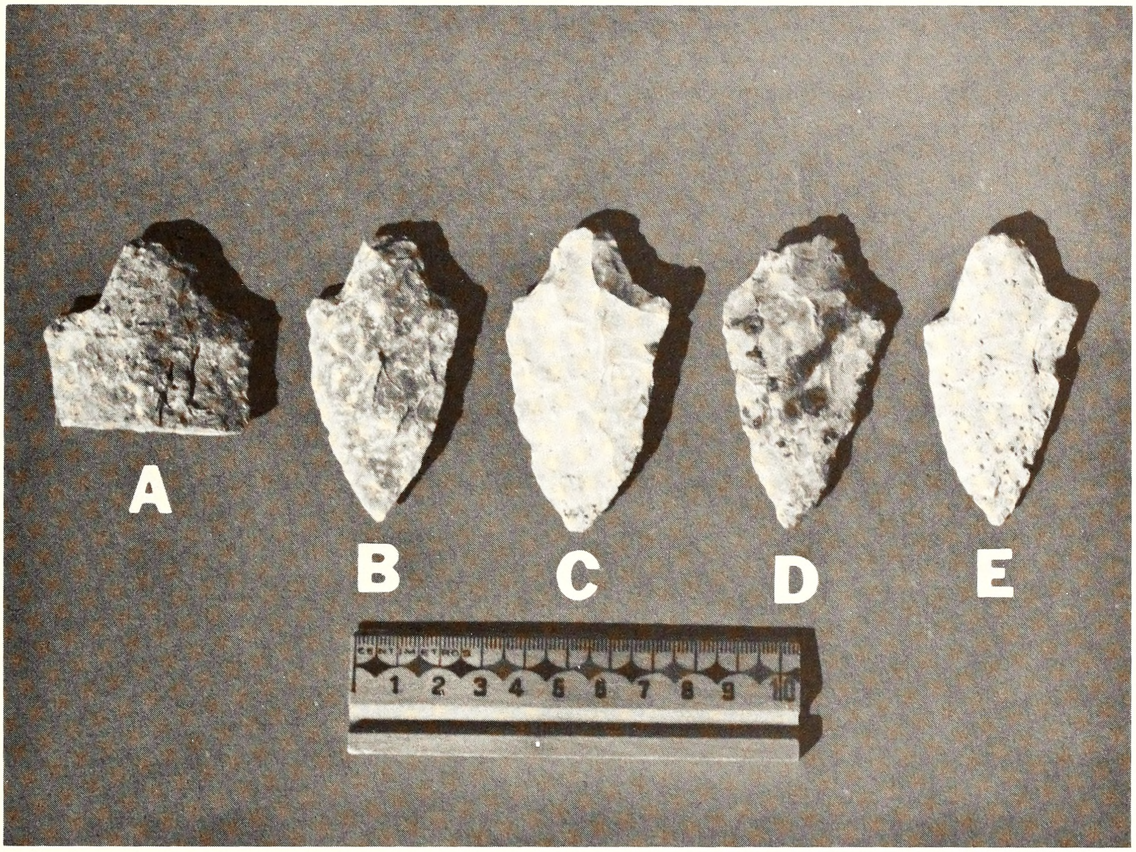

Figure 5. Projectile Points recovered from the test pit deposit.

ANALYSIS OF THE TEST PIT MATERIAL

Although the size and extent of this excavation unit was small, the amount of cultural material recovered from this pit was quite high. A total of 16,552 separate pieces of material were excavated from the test square (Table 1). Of these, 1,537 pieces were found in layer #1, 10,534 in layer #2, 1,402 in layer #3, 2,427 in layer #4, and 652 in layer #5.

Of the artifacts collected, 6,168 pieces were discarded and not used in the formal analysis of the material. These discarded pieces consisted of spalls and pieces less than 1 cm in diameter that visibly lacked a hertzian cone and bulb of percussion. The remainder of the material was classified in terms of 1) the logical sequence of lithic reduction; 2) evidence of utilization; and 3) diagnostic points and tools (Table 1). The cores were analyzed using a model developed by Bradley (1973) and the lithic reduction sequence, along with diagnostic pieces were described primarily following Coe (1964).

Flakes

The major activity on the site appears to have been the reduction of raw materials into portable forms; therefore, most artifacts recovered were debris from the reduction process. The debris was classified into two categories: (1) decortification flakes and (2) second stage flakes.

The decortification flakes were defined as those flakes having visible amounts of cortex on the side opposite the bulb of percussion. These flakes were removed from the original nodule of raw material through direct percussion using a hard hammer in the initial step of core preparation (Speth 1972). These flakes are most often large and blocky, but a few are fairly thin. Of the thin pieces, most retain a wedge-like shape contracting down from the platform (Fig. 6 a-f).

The second stage flakes were those pieces of debris that show no cortex opposite the bulb of percussion side. These flakes are more thin and less blocky than the decortification material and probably result from platform building and general thinning (Fig. 6 g-n). These flakes were also produced by direct percussion using a hard hammer (Speth 1972).

A relationship can be inferred between the total amounts of decortification and second stage flakes and the amount of reductive activities being carried out on the site at a particular time. The quantities of debris represented in layers #2 and #4 (Table 1) far exceed the total debris within the remaining layers: therefore, it is probable that the area of the test pit was utilized most intensively by the prehistoric group/groups represented by those two levels. In addition, it can also be inferred that the major utilization in the area of the test pit occurred during the deposition of layer #2, because 64% of the total pit material came from that level.

Table 1. Tabulation of the quantity of each artifact type from each level of the two-meter test pit.

	CORES	DECORTIFICATION FLAKES	SECOND STAGE FLAKES	UTILIZED DECORTIFICATION FLAKES	UTILIZED SECOND STAGE FLAKES	PREFORMS	QUARRY BLADES	HAMMERSTONES	PROJECTILE POINTS	SCRAPERS	QUARRY BLADE PIECES	UNIFACE KNIVES	DIGGING IMPLEMENTS	DISCARDED PIECES	TOTAL S
LEVEL #1	6	438	368			11	1	1						712	1,537
LEVEL #2	30	1982	5458		2	27	8	1	5	2	3	1		3015	10,534
LEVEL #3	11	205	283		1	8					1			893	1,402
LEVEL #4	7	587	702	1	1	14	2							1113	2,427
LEVEL #5	9	76	118	1	1	10					1		1	435	652

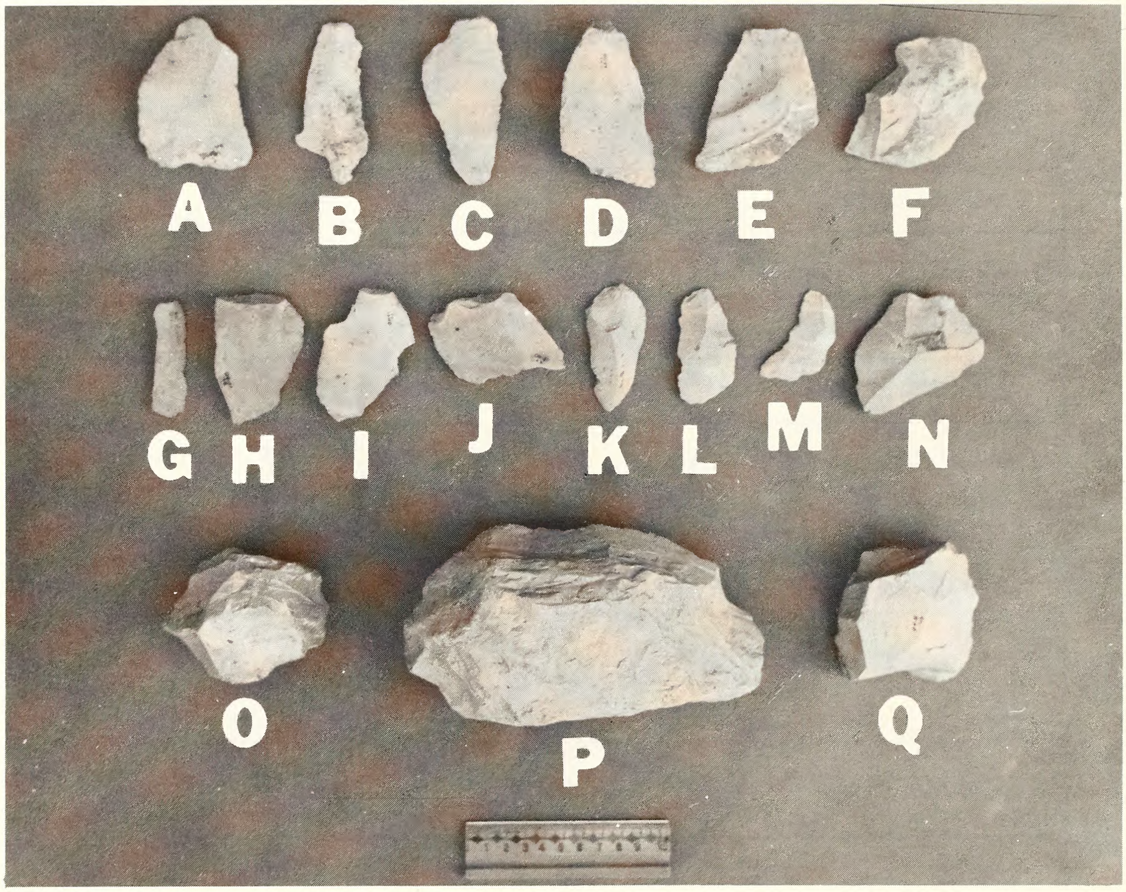

Figure 6. Sample of flakes and cores recovered from layer #2 of the test pit deposit: a-f, decortification flakes (a&b exterior); g-n, second stage flakes (g-j, interior, k-n, exterior); o-q, cores (o&q, secondary cores, p, primary core). All flakes are photographed with the platform and Hertzian cone at the top.

Within the debris a total of seven pieces showed possible utilization. These flakes were not modified by retouch in any way after being detached from the core or quarry blade; however, they all show possible signs of wear in the form of secondary chipping (Fig. 7a,b). The edges are acute with angles that range between 30° and 60° and would not have been too delicate to use with significant pressure. An observation by Wilmsen (1968) may be relevant:

> "It is probably that most utilized flakes were employed in cutting meat and skins, and it is possible that most cutting of this kind was accomplished only with unmodified flakes and not with formal tools. Apparently any suitable flake that was available was used for a specific task and then discarded, perhaps to be used again for some later task or perhaps to be left where it fell."

When inspected under 20X magnification no evidence of striations was noted in the flakes we classified as utilized; however, such evidence may only be observable under magnification as high as 200X (Keeley 1977).

Cores

The cores (Fig. 6o-q) were classified into two groups: (1) primary cores and (2) secondary cores (Bradley 1973). The primary cores (Fig. 6p) were initially prepared from rough nodules by removal of decortification flakes to expose a platform surface. From the primary cores large flakes were removed to produce smaller cores. Once flakes were removed from these detached pieces of the primary core they become secondary cores (Fig. 6 o&q). The flakes removed from the secondary core could then be further reduced and modified into quarry blade preforms, from these on to quarry blades and finally into finished implements.

The majority of the cores from the test pit are exhausted secondary cores, with two primary cores from layer #2 and one each from layers #4 and #5 (Table 1). As might be expected, the largest percentage of cores was recovered from layer #2. The dominance of exhausted secondary cores indicates that further reduction of the raw material beyond the primary core stage was being carried out on the site over the entire span of its occupation and utilization of resources.

Preforms

The preforms represent an intermediate stage between flakes from secondary cores and quarry blades. Within the surface collections, the preforms were one of the most abundant artifacts recovered; in the excavation, preforms are second in quantity only to waste debris. Flaked from secondary cores, some preforms were worked bifacially, although most are unifacial and still retain the platform and bulb of percussion. Most of the flaking on the preforms is broad and deep, leaving the piece

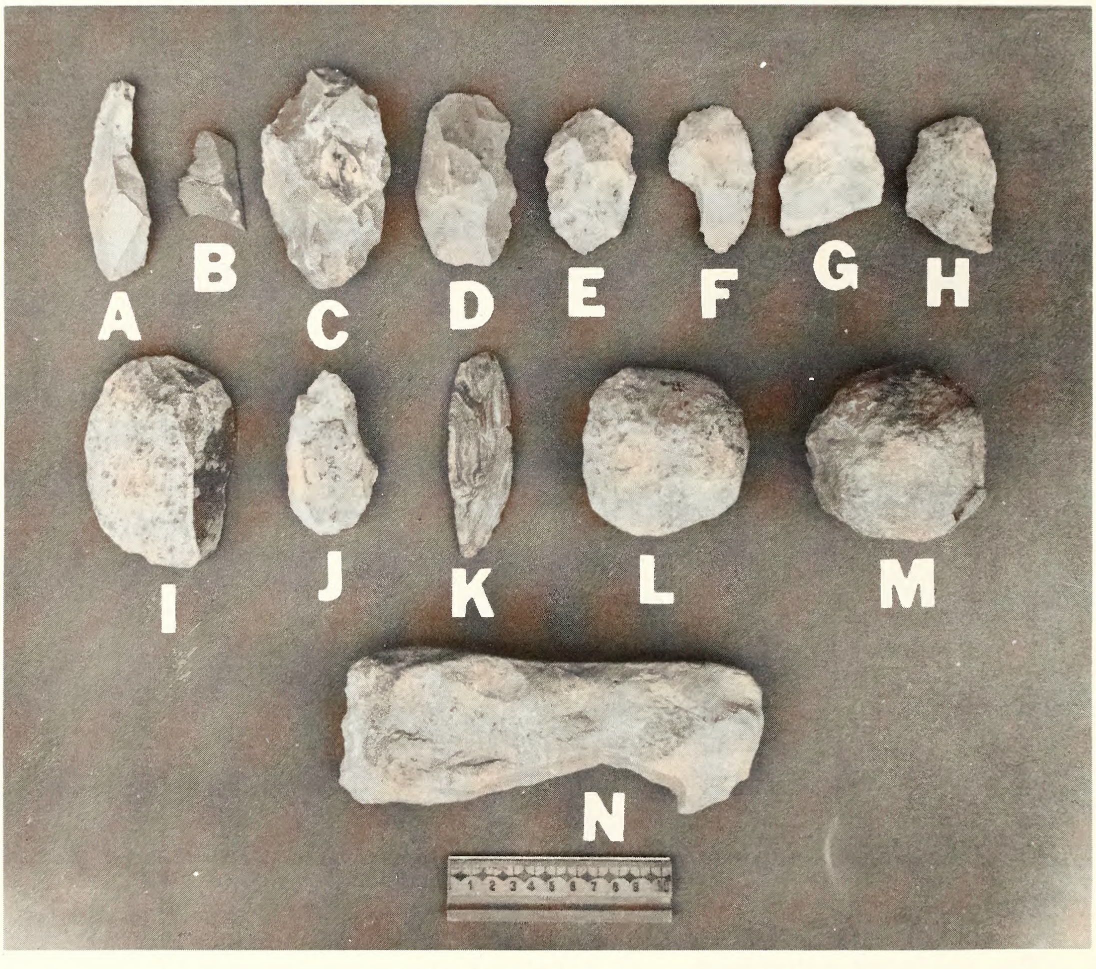

Figure 7. Sample of several different types of artifacts recovered from the test pit deposit and discussed in the text: a-b, utilized flakes (level #5, #5); c-e preforms (level #5, #2, #5); f-h quarry blades (level #1, #2, #4); i-j, side scrapers (level #2, #2); k, uniface knife (level #2); l-m, hammerstones (level #2, #1); n, digging implement (level #5).

thick in the middle (Fig. 7c,d,e).

It is believed that these preforms recovered in the excavation were discarded because of technical problems which prevented further reduction. Many of them have very thick midsections and frequently a pronounced hump on one side.

Quarry Blades

A total of 11 diagnostic quarry blades were recovered from the test square: 8 were recovered from layer #2, 2 from layer #4, and 1 from layer #1 (Table 1A).

In layer #1 a type I blade was recovered (Fig. 7f). Seven of the blades in layer #2 were type II (Fig. 7g&h) (Coe 1964) with the remaining piece belonging to the type I category. In layer #4 one each of type I and II were found.

All of the quarry blades exhibited lateral snap or other breakage. Therefore, it appears that their presence in the strata results from breakage during reduction, and subsequent discard. The final step in reduction on Three Hat Mountain appears to have resulted in quarry blades which were carried from the mountain and reduced to final tool forms elsewhere.

Scrapers

Two type I side scrapers (Fig. 7i,j) Coe (1964) were recovered from layer #2. One piece (Fig. 7i) is 9 cm in width, 6 cm in length, and 3.4 cm at the platform. The smaller piece, (Fig. 6j), measures 7 cm in width, 3.4 cm in length, and 1.7 cm at the platform. These along with the few utilized flakes seem to indicate activities other than quarrying and knapping at the site.

Projectile Points

Five projectile points were recovered, all probably attributable to layer #2 (Fig. 5). Two of the points (Fig. 5a,b) are made of felsic material unlike the stone native to the test pit area. The remaining 3 points (Fig. 5c,d,e) appear to have been produced from the rhyolite native to the test pit area, but have surface decomposition on at least one side, not generally characteristic of the secondary flake knapping debris. Morphologically, 4 of these points (Fig. 5a,b,c,d) are similar to the Koens-Crispin type (Cross 1941 and Kraft 1970). Coe has associated the Koens-Crispin with the Savannah River Stemmed which is radiocarbon dated at 1944 B.C. ± 250 years (Coe 1964:44, 118). The fifth point is more similar to the Savannah River type common in the North Carolina piedmont (Coe 1964).

Uniface Knife

One unifacially flaked knife (Fig. 7k) was found in layer #2. It is made of a medium-grained, dark grey banded rhyolite-- a type of stone unique in the collection from the test pit excavation. The tool measures approximately 10.2 cm in length. Produced from a slender flake, the knife retains the platform and bulb or precussion at the base and is utilized along both edges and at the point. The sides appear to be retouched slightly creating curvature at the ends.

Hammerstones

Two hammerstones were recovered, one each from layers #1 and #2, in the test pit. Both stones are dense, basaltic material. The hammerstone from layer #2 (Fig. 71) is a type V (Coe 1964), while the hammerstone from layer #1 (Fig. 7m) is a type VI. These presumably were used in at least the first steps of the knapping process to reduce cores and rough out the preforms. However, bone or antler hammers may have been used for the fine shallow flaking on the quarry blades.

Digging Implement

One very rough, crude implement was found in layer #5, (Fig. 7n). It is a long blocky piece approximately 20 cm in length, made of native Three Hat material, and apparently use-damaged at one end. This tool may have been used as a digging implement to extract lithic raw materials from the ground.

ANALYSIS OF SURFACE COLLECTIONS

In addition to the excavated material, two separate surface collections were obtained from the site. One collection was obtained around the area of the test pit and along the western slope of the ridge following the logging road cut (Fig. 1) (Table 2). This collection includes a total of 102 separate pieces of material (Table 1b). The projectile points gathered include 2 unfinished Savannah River, and 1 Badin. Quarry blades found consist of 1 type I blade, 4 type II, 3 type III, and 2 type VII blades (Coe 1964). One type II scraper and a high-backed scraper were also collected. One type VI and one type III hammerstone (Coe 1964) are also present in this collection.

The second surface collection, totaling 109 pieces of material, was obtained from the northeastern slope of the mountain following the course of a powerline right-of-way toward Flat Swamp Creek (Fig. 1). Projectile points in this collection include 1 Savannah River, 1 Guilford, and 1 Badin. The majority of quarry blades recovered fit into the type II and type VII range (Coe 1964), with quantities of 5 and 6 respectively. The one scraper in this collection is type I. Also, four sherds of Yadkin Series pottery were found.

Table 2. Tabulation of the quantity of different artifact types present in four different surface collections from the Three Hat Mountain area.

	CORES	DECORTIFICATION FLAKES	SECOND STAGE FLAKES	UTILIZED FLAKES	PREFORMS	QUARRY BLADES	HAMMERSTONES	PROJECTILE POINTS	DRILLS	AXES	SCRAPERS	KNIFE BLADES	QUARRY BLADE PIECES	SCRAPER BLANKS	DIGGING IMPLEMENTS	NON-DESCRIPT. POINTS	NON-DESCRIPT. PIECES	CERAMICS	TOTALS
Surface Collection Test Pit Area	12	7	13		41	10	2	4			2					11			102
Surface Collection Base of Mountain	2		7		48	14	2	4		3	1		15			1	8	4	109
Dongell Collection	1					95		41	1	1			55	1		13			208
Curry Collection	6	1	15	6	114	115	24	416	8	3	51	26	22		1	307	4	11	1130

In addition, two private collections of artifacts from the Three Hat Mountain area were studied and classified. One collection belongs to Mr. Oliver Dongell of Greensboro, North Carolina. His collection was made in an area ranging from New Cut Road, northeast and east of the mountain, back to Flat Swamp Creek (Fig. 1). Nearly the entire early and middle Archaic sequence of projectile points found in the piedmont North Carolina as described by Coe (1964), are represented in his collection. However, many of the points (14), are Savannah River. Of the 95 quarry blades present, 77% are type II, while 19% are type III. The balance of the quarry blades are made up of one each of types I,V, and VII (Coe 1964).

The second private collection belongs to Mr. Gary J. Curry of Thomasville, North Carolina. His collection was obtained from the northeastern slope of the mountain in the same area as the second surface collection, totalling 109 pieces, obtained by the UNC-G field crew. Mr. Curry's collection includes projectile points representing a major portion of the Archaic sequence common to the North Carolina piedmont: 1% Hardaway-Dalton; 3% Palmer; 11% Kirk; 9% Stanley; 17% Morrow Mountain; 2% Halifax; 5% Guilford; and 50% Savannah River. In addition to the points common to the North Carolina piedmont, the Curry collection also includes the following relatively uncommon types: 1 Benton; 6 Big Sandy; 4 Eva; and 3 Le Croy (Lewis and Kneberg 1961). A total of 115 diagnostic quarry blades in the Curry collection were classified according to Coe (1964) as follows: 8% Type I, 55% Type II; 21% Type III; and 16% Type VII.

Mr. Curry's collection includes a total of 208 Savannah River projectile points. All of these (100%) exhibit lateral snap breaks, with the broken surface uniformly decomposed to the color of the unbroken surface. In addition, 93% of the Type II quarry blades and 100% of the Type III quarry blades are in the same lateral-snapped broken condition. These data may indicate that much of the lithic reduction of quarry blades into finished tools, at least during the Savannah River phase, was being performed at the base of Three Hat Mountain. Furthermore, most of the projectile points and quarry blades in the Curry collection which are not attributable to the Savannah River phase do not have the same lateral snap breakage.

Unbroken preforms from the upper part of the mountain(UNC-G collections) and from the base of the mountain (Curry and UNC-G collections),were compared to determine if any significant difference exists in the amount of reduction. The preforms were grouped in three units for analysis: preforms recovered in the test pit excavation (21 preforms); preforms in the UNC-G surface collection from around the test pit area and along the southwestern slope of the mountain (25 preforms); and preforms in the Curry and UNC-G surface collections from the northeastern base of the mountain (124 preforms).

Two sample t tests (t=2.39, $p < .01$) and analysis of variance ($F(2,131)=4.92$, $p < .01$) were calculated on the preforms in order to

statistically quantify the variation among the units. The results of the analysis indicate that the surface collections are different from the excavated material in terms of thickness ($\underline{t}(111)=3.25$, $p.<.01$). In addition, both surface collections are different from the excavated material in terms of width and thickness ($\underline{t}(44)=3.31$ and $\underline{t}(44)=2.78$, $p.<.01$ for the surface collection around the test pit, and $\underline{t}(107)=2.81$ and $\underline{t}(107\_=2.48$, $p.<.01$ for the surface collection from the area at the northeastern base of the mountain, respectively). The calculation of analysis of variance produced significance only in terms of width ($\underline{F}(2,131)=5.02$, $p.<.01$).

From the above calculations it can be inferred that the surface collections are different from the excavated material. However, the surface collection from the northeastern base of the mountain appears to have the same statistical relationship to the excavated material as does the surface collection around the test pit. This indicates that the surface collected preforms are basically the same in the two areas of the mountain which have been compared. Also, the degree to which the preforms were reduced appears to be the same both on the mountain and at the northeastern base of the mountain.

CONCLUSIONS

As stated at the beginning of this report, excavation of the test pit was intended to answer three questions about activities at this location on Three Hat Mountain: 1) were the strata formed during different phases of occupation on the site; 2) could any of the strata be dated through the presence of chronologically diagnostic artifact types; 3) what prehistoric activities could be inferred from the study of a controlled excavated collection of artifacts. From the concentrations of artifacts in the five strata, two major phases of use can be inferred. The first occurs in layer #4 and may possibly date to Stanley times, although the only diagnostic artifact occuring in this layer which supports this assumption is one type I (Coe 1964) quarry blade. Indeed this layer may pertain to the Savannah River phase occupation and represent only a minor temporal difference within that phase. The next phase of utilization is represented by layer #2, and presumably dates to Savannah River times. Three of the projectile points from layer #2 and 1 from layer #3 (Fig. 5b-e) are morphologically similar to the points of the Koens-Crispin Culture in New Jersey, described by Cross (1941) and Kraft (1970). The other point (Fig. 5a) is morphologically more similar to the typical Savannah River type found in North Carolina.

The prehistoric activities on Three Hat Mountain were primarily quarrying and stone knapping of pieces of argillite and rhyolite collected as nodules on the surface or quarried from the heads of gulley cuts, following veins of the high quality materials. The raw materials were prepared as cores using direct percussion with hard hammers and then further reduced into secondary cores using the same technique. Flakes from secondary cores were chipped into quarry blade

preforms, some of which were discarded because of technical difficulties arising in the reduction process. It appears that both preforms and quarry blades were taken from the site to be processed into finished tools at the base of the mountain or elsewhere. It is also believed that although prehistoric groups visited the site primarily to obtain quarry blades they probably also camped and hunted there occasionally. The occurrence of scrapers, points, and utilized flakes in the excavated collection, in our surface collections, and in the Dongell and Curry collections indicate some Archaic period hunting activities on and around Three Hat Mountain.

SUGGESTIONS FOR FURTHER STUDY

Further study at Three Hat Mountain would contribute to a better understanding of prehistoric lithic resource collection and distribution patterns in this area of the Southeast. More work is needed to better document the spatial and temporal extent of the site and to provide additional information concerning the stone quarrying and knapping technologies of prehistoric groups. Additional work is also needed to establish the relationship of the Three Hat Mountain lithic source to others in the piedmont region. Furthermore, a study of the settlement patterns on and around the mountain might help reveal the economic value of the site to aboriginal groups.

ACKNOWLEDGEMENTS

The excavation at Three Hat Mountain was undertaken in 1975 under the direction of Dr. Joseph B. Mountjoy. We would like to thank Mrs. Alice M. Carll, Mr. Fred Bingham, Mr. Eugene Weaver for their permission to conduct this study on their property, and the University of North Carolina-Greensboro for supporting the field research and the laboratory analysis.

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THE BLUE ROCK SOAPSTONE QUARRY (31Yc7), YANCEY COUNTY, NORTH CAROLINA

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INTRODUCTION

In October of 1979, archaeologists from the Division of Archives and History conducted investigations at a soapstone quarry in Yancey County, North Carolina. The site has since been designated as 31Yc7, the Blue Rock soapstone quarry. The purpose of the investigations was to assess, in preliminary fashion, the potential National Register eligibility of the prehistoric quarry site and to evaluate the probable future of the site with regard to ongoing and/or potential destruction.

The purpose of this brief report is to present the results of the 1979 investigation and to provide framework for evaluating the research and National Register significance of the Blue Rock quarry. The investigation was conducted by Linda H. Pinkerton, then at the Western Office of the Division of Archives and History, and Mark A. Mathis, Archaeology Branch. Sincere thanks are extended to Dr. Harley Jolly for his concern and interest in the site and to Mr. William (Bill) Wilkins, Deneen Mica Company, for allowing us to perform the study. Illustrations for this report were prepared by the author and Anthony (Tony) Burden.

The soapstone quarry was first brought to the attention of the Division in 1978 by Dr. Harley Jolly of the Department of History at Mars Hill College. The site has been known to area residents for many years, not necessarily as a manifestation of prehistoric quarrying activities, but as a source of relatively high grade soapstone. Recent activity at the site has involved the removal of slabs and chunks of the soapstone for use in hearthstones and crafts manufacture. Scars of such activities are visible as saw cuts at numerous locations on the main outcrop. One resident who visited the site during our investigations admitted to having engaged in such modern "quarrying" practices and also noted that the site has been a favorite hangout for weekend outings. The remains of recent campfires and a tarpaulin tent/lean-to attested to local familiarity with the site. Some of the area residents, however, were and are aware of the prehistoric associations. At least one private collection from the site includes 3/4 grooved and polished stone axes, quarrying tools, soapstone bowl fragments, and several complete bowls.

In addition to the gradual attrition of the site through the activities of the residents, the site was recently inadvertently disturbed by the Deneen Mica Company in search of productive talc deposits. The western side of the soapstone outcrop was partially bulldozed to allow access for a truck-mounted auger for probing the depth and nature of the deposits. In discussions with a company official it was determined that, for the present anyway, no plans exist for full-scale mining of the deposits.

GEOLOGICAL SETTING

The Blue Rock soapstone quarry (31Yc7) is located in east-central Yancey County, North Carolina, approximately 2.4 kilometers (1.5 miles) south of the small mountain community of Newdale. The setting is typical of the interior Blue Ridge Mountain physiographic region, with moderately rugged to rugged topography, and highly dissected, steep-sided valleys. The quarry site is situated on a west-facing slope of Fawn Mountain at an elevation of approximately 816m (2720 ft.) above mean sea level (AMSL). Approximately 250m to the west of the site and 66m (220 ft.) lower in elevation is the north-flowing South Toe River. Fawn Mountain rises on the east to a peak of 1011m (3370 ft.) AMSL.

The geology of the area is characterized by Early Precambrian metavolvanic and metasedimentary lithologies, principally schists, gneisses, and quartzites. In the vicinity of the Blue Rock quarry site, hornblende gneiss is most abundant. Small veins of severely fractured quartz and quartzite are also observed in the area, as are peridotite (an intrusive igneous rock frequently found in association with soapstone), mica, actinolite, chlorite, asbestos, feldspar, and megmatite. Asbestos was mined locally until recent years, and mica and feldspar deposits continue to be exploited. Soapstone and talc do not appear to have been mined extensively in the immediate area but were until the early 1940s near Spruce Pine, in Mitchell County, and further to the south, near Mars Hill, in Madison County.

According to Stuckey (1965:34), soapstone consists of 10-80% talc, and is formed by secondary hydrothermal alteration of hornblende gneiss. Soapstone is an "impure talcy rock," frequently used in ground form as a substitute for talc (Stuckey 1965:455), but more commonly in sawed blocks for building and insulation materials. Talc is a hydrous magnesium silicate employed primarily in sawed or ground form in a variety of industrial and building products, particularly paints, ceramics, and insulation. In much of the archaeological literature, the term "steatite" is used interchangeably with "soapstone." However, steatite refers specifically to "a compact, massive form of very pure talc" which occurs in metamorphosed dolomite limestone (Stuckey 1965:456). As such, it is not common to the area of the Blue Rock quarry. Soapstone, on the other hand, is common to the area, occurring in bodies varying from 5 to 25 feet in thickness (Stuckey 1965:34). Given the lack of systematic geological or archaeological research in the area, however, little can presently be said about the distribution of those bodies or their use by historic or prehistoric peoples. Bohanon's (1975) source analysis of soapstone artifacts from Tennessee did involve the collection of samples from several deposits from Yancey County, one of which may have been the Blue Rock outcrop. No mention is made in his report, however, concerning evidence of quarrying activities at any of the deposits.

SITE DESCRIPTION

The Blue Rock deposit occurs as a small hill-like outcrop measuring approximately 30 meters north-south, 20 meters east-west, and rising to a maximum height of about 3 meters (Figure 1). It is bounded to the north and south by seasonally wet drainages, on the east by Blue Rock Road (S.R. 1152) and Fawn Mountain, and on the west by the steep drop to the South Toe River.

Sometime in the last year or two, a local mining company undertook exploratory augering tests at the site to evaluate the talc and soapstone mining potential. A bulldozer was apparently used to push out an access road and level working surface for the truck-mounted auger and, in the process, cleared approximately 700 square meters on the west side of the outcrop. Several small exposures of soapstone are now visible in the cleared area and appear to be coterminous with the main outcrop. Although difficult to calculate, it appears that only a few centimeters of topsoil and several moderate-sized chunks of soapstone were pushed off the area, along with the trees and bushes. The bulldozer spoil pole now rings the northern and western edges of the deposit.

The most prominent features at the site are the many quarrying scars scattered over the main soapstone outcrop. The scars provide a record of both historic and prehistoric exploitation of the soapstone. Modern use of the outcrop is indicated by saw cuts, most of which exhibit a glossy, unweathered surface, suggesting relatively recent origin. Others have slightly weathered surfaces, indicating an earlier historic origin. Since soapstone slabs serve well for hearthstones and firebox liners and have been used as cemetery headstones in many areas, there is a likelihood of a century or more of local historic utilization of the Blue Rock deposit. The proximity of the deposit to Blue Rock Road certainly made it a readily available source. Local craftspersons and hobbyists are also reported to frequent the deposit for raw materials.

Less noticeable are the numerous basin-shaped depressions and concavities--prehistoric bowl cut outs--scattered over the outcrop. Some of the depressions or cutouts measure up to 50cm in diameter and 30cm in depth. At the bottom of several cut outs are small pedestals or knobs, from which the bowl preform or blank was cut or snapped (Figure 2). However, the isolated and prominent cut out, such as that shown in Figure 2, is relatively rare. Most of the evidence of raw material extraction is visible only as slight concavities or arc-like impressions in the sides of the outcrop. For instance, the prominent cut out in the center of Figure 2 appears to have been one of the last to be worked at that particular locus on the outcrop. Around the cut out are several less perceptible arcs and concavities, each of which appears to represent an earlier quarrying episode.

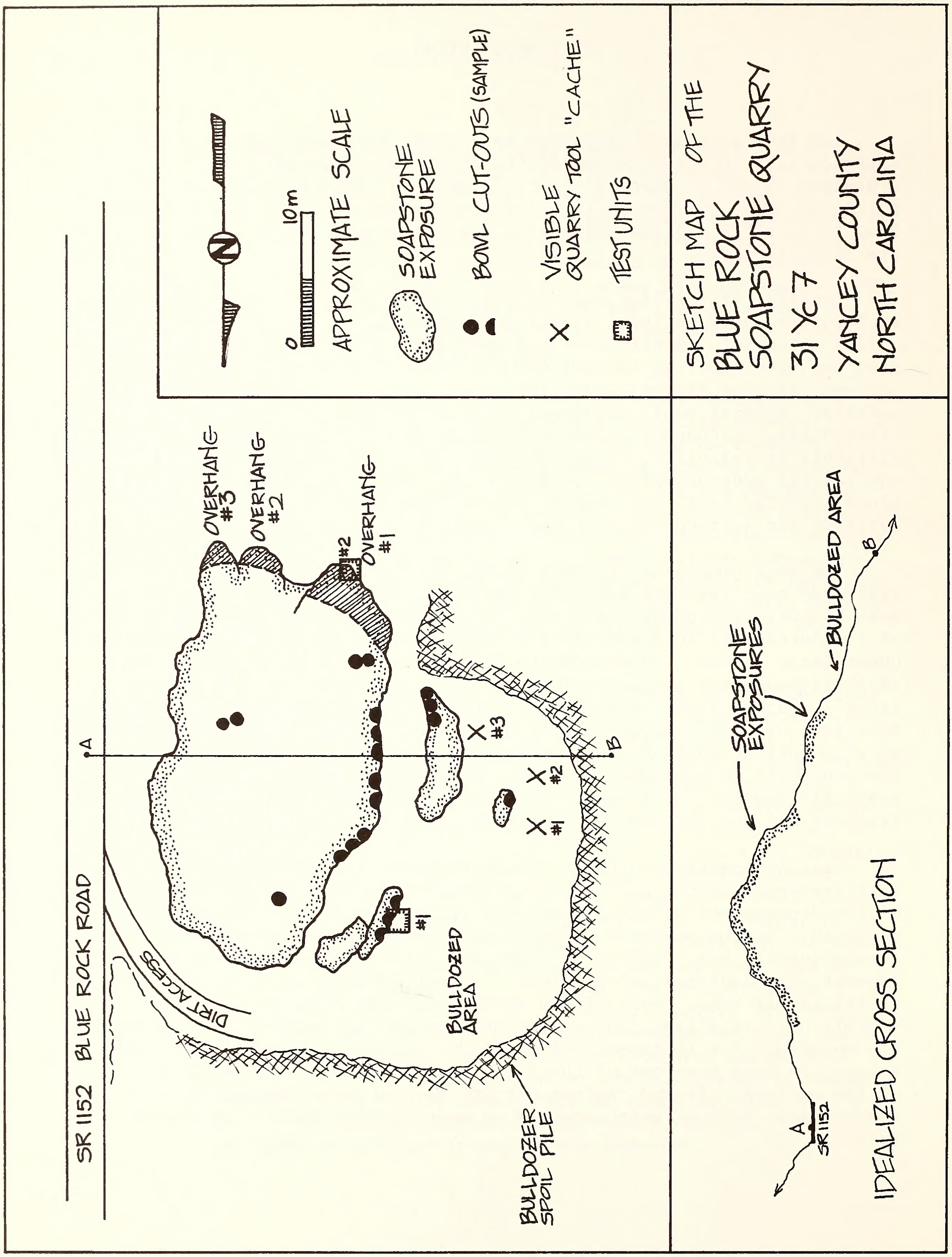


Figure 1. Blue Rock Soapstone Quarry (31Yc7).

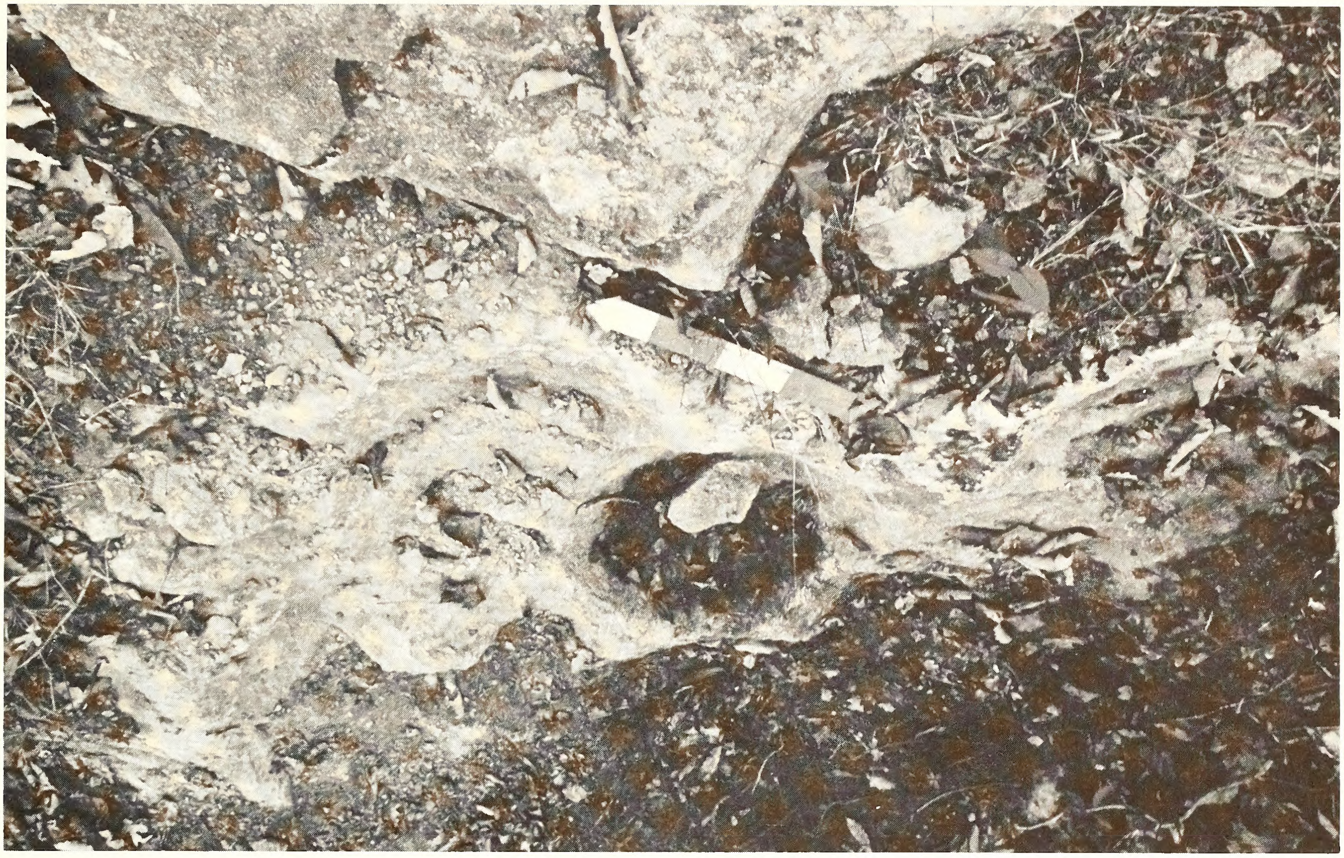


Figure 2. Bowl quarry scars at the Blue Rock Soapstone Quarry (31Yc7).

Other visible features at the site are three small overhangs formed by the soapstone outcrop. The overhangs are located at the southern end of the outcrop and appear to have been formed--at least partially--as a result of the weathering out or decay of impurities in the soapstone. In this area of the deposit, chlorite, hematite, and several other minerals probably account for over 50% of the mineral composition. Portions of the ceilings of the overhangs are severely foliated, and flakes and chunks are not difficult to pry loose.

Two of the overhangs provide shelter for no more than 1-2 square meters of floor space and a meter or less of head room. The other overhand (#1 in Figure 1) has as much as 25 square meters of floor and a maximum of a meter of head room. the larger overhang may have provided temporary shelter for a small number of prehistoric quarry workers and based on the presence of modern trash, has also been used in recent years. A single small test square was excavated under the overhang during the recent investigation, the results of which are discussed below.

Perhaps the most interesting visible feature at the site is the abundance of quarrying tools. Scattered throughout the site, and particularly in the bulldozed area, are literally hundreds of well-rounded cobbles and cobble fragments. The majority of the cobbles have been modified to form one or more pick-like points or have one or more severely battered surfaces or edges. Since the nearest source of cobbles is the South Toe River, over 200m west and 66m lower in elevation, it is reasonable to assume that they were brought in by quarry workers.

While most of the cobbles, cobble fragments, and tools appeared to be scattered across the site, three discrete clusters were observed in the bulldozed area (see Figure 1). The clusters consisted of 10-40 cobble tools and fragments concentrated within areas of a maximum of 1 meter in diameter (Figure 3). Although it is possible that these materials were stacked into piles in recent times, no evidence of fire or other historic activities was observed, with the exception of the occasional beer can pop-tab. Several other dispersed concentrations of tools were also observed across the site. The evidence suggests that these concentrations represent tool caches which were truncated by the bulldozer blade.

Figure 3. Probable tool cache at the Blue Rock Soapstone Quarry, exposed by bulldozer (x = quarry tool).

TESTING

Two test units were excavated at the quarry site (see Figure 1). Test pit #1, a 1 x 1 meter unit, was dug at the edge of the bulldozer cut on the northwest side of the main outcrop. Test pit #2, a 50 x 50 centimeter unit, was excavated just inside the dripline of overhang #1. The objectives and results of the tests are discussed below.

Test Pit #1. The first test was placed adjacent to a small soapstone exposure immediately to the northwest of the main outcrop, on the edge of the bulldozed area. Along the western edge of the small exposure, which rose to no more than about 15cm above the west-sloping ground surface, were three (and possibly four) slightly overlapping bowl cut-outs. The cut outs were visible only as arc-like concavities in the edge of the exposure. The test unit was initiated with a primary objective of cleaning out the largest and apparently most recent of the cut outs and, in the process, evaluating the extent of any disturbance caused by the bulldozer. Given the time restraints on the work and the fact that it was carried out in a steady drizzle, the test was conducted much the same as a shovel test. That is to say, excavation levels were not specifically defined, nor were individual artifacts measured or mapped as they were encountered. All of the soil was hand and trowel sifted for artifacts for the first 10-20cm of the unit; a 1/4" mesh screen was used for the remainder. All non-soapstone materials were collected along with a sample of the ubiquitous soapstone quarry debris. Excavation continued to a maximum depth of approximately 50cm below the ground surface, with the base of the unit being entirely compact soapstone deposit.

Stratigraphy was impossible to discern due to the density and uniform distribution of the soapstone debris and the homogeneity of the reddish brown clay matrix. There was no humus zone observed, having apparently been removed by the bulldozer. The overall effect of the bulldozing, however, may have been less significant than initially thought. Given the difference in the slope of the present ground surface (16%) and the slope of the soapstone deposit exposed in the test unit (20%), substantial portions of the archaeological deposits may still be intact. In effect, the soapstone deposit dips to the west at a greater angle, and may have escaped the blade of the bulldozer.

The large bowl cut out, over which the test unit was set, was completely exposed by the excavation. As suspected, the cut out was apparently the last in a series of quarry episodes evidenced in the section exposed by the test. At least three and possibly four earlier quarry episodes were intersected by the large cut out (Figure 4). Two (or three) of these cut outs occur lower on the deposit and probably provided the initial working surface for the extraction of the larger bowl.

Figure 4. Bowl cut out, pedestal, and wedge (presumed), Test Pit #1 (dashed lines indicate earlier cut outs).

At the base of the large cut out was a small pedestal from which the bowl or bowl preform/blank was apparently snapped. Wedged underneath the slightly undercut pedestal was a large chunk of quartz (Figure 4; compare with Figure 2). A number of smaller quartz chunks and flakes were also scattered around the pedestal, presumably fragments of quarry tools. No obvious tools were recovered, however, with the possible exception of the large quartz chunk. The large chunk may have served as a wedge for snapping the bowl preform/blank from the pedestal.

Test Pit #2. The second test was placed at the dripline of the southernmost extension of overhang #1 (Figure 5). The purpose of the test was to determine whether or not intact subsurface cultural deposits were present under the overhang, but to do so with the least amount of disturbance to such deposits (should they exist). A 50 x 50cm unit was considered sufficient to meet this simple objective.

The unit was excavated in four levels following the natural slope of the ground surface. Each level was troweled, and all fill screened through a 1/4" mesh. All non-soapstone artifacts and a sample of the soapstone debris were collected. Soil samples were also collected for fine screening and flotation, but have not been analyzed as of this writing.

Soapstone bedrock was encountered at a depth of around 28cm along the northern wall of the test unit and at 36cm along the south wall. A small boulder, possibly roof fall, halted excavation in the northwest corner of the unit at about 15cm. Cultural materials, consisting of a few flakes and modern trash, were recovered from a 5-6cm thick humic zone. Surface disturbance appears to have been minimal and modern artifacts were not found below the humus zone.

Soapstone debris and small quantities of debitage were recovered from all levels of the unit. Some of the debris was obviously roof fall, being similarly poorly compacted and foliated. However, most was a better grade material, such as that found along the northwest side of the outcrop, and appears to occur as a result of raw material reduction activities.

Occupation or use of the shelter was most evident at a depth of approximately 23cm. Resting at this level was a rounded soapstone bowl base, a pick-like cobble tool, a large unmodified quartz chunk, several quartz flakes, and charcoal. While there was no noticeable stratigraphic break in soil texture or color, the vertical and horizontal association of the larger artifacts suggests that an intact occupation floor exists. Unfortunately, no diagnostic artifacts were recovered from the unit. The two 3/4-grooved axes reported to have been collected at the site, however, would suggest an Archaic period of exploitation. A Late Archaic to Early Woodland affiliation is generally assumed for soapstone exploitation in North Carolina (Coe 1964; Keel 1976).

Quartz and hornblende gneiss debitage also occurred to a maximum depth of approximately 35cm, suggesting the possibility of multiple use episodes at the shelter. Given the convenient "on-site" location, it is quite possible that the shelter contains evidence of many of the quarrying episodes undertaken at the site. A complete listing of artifacts recovered from the tests is provided in Appendix B.

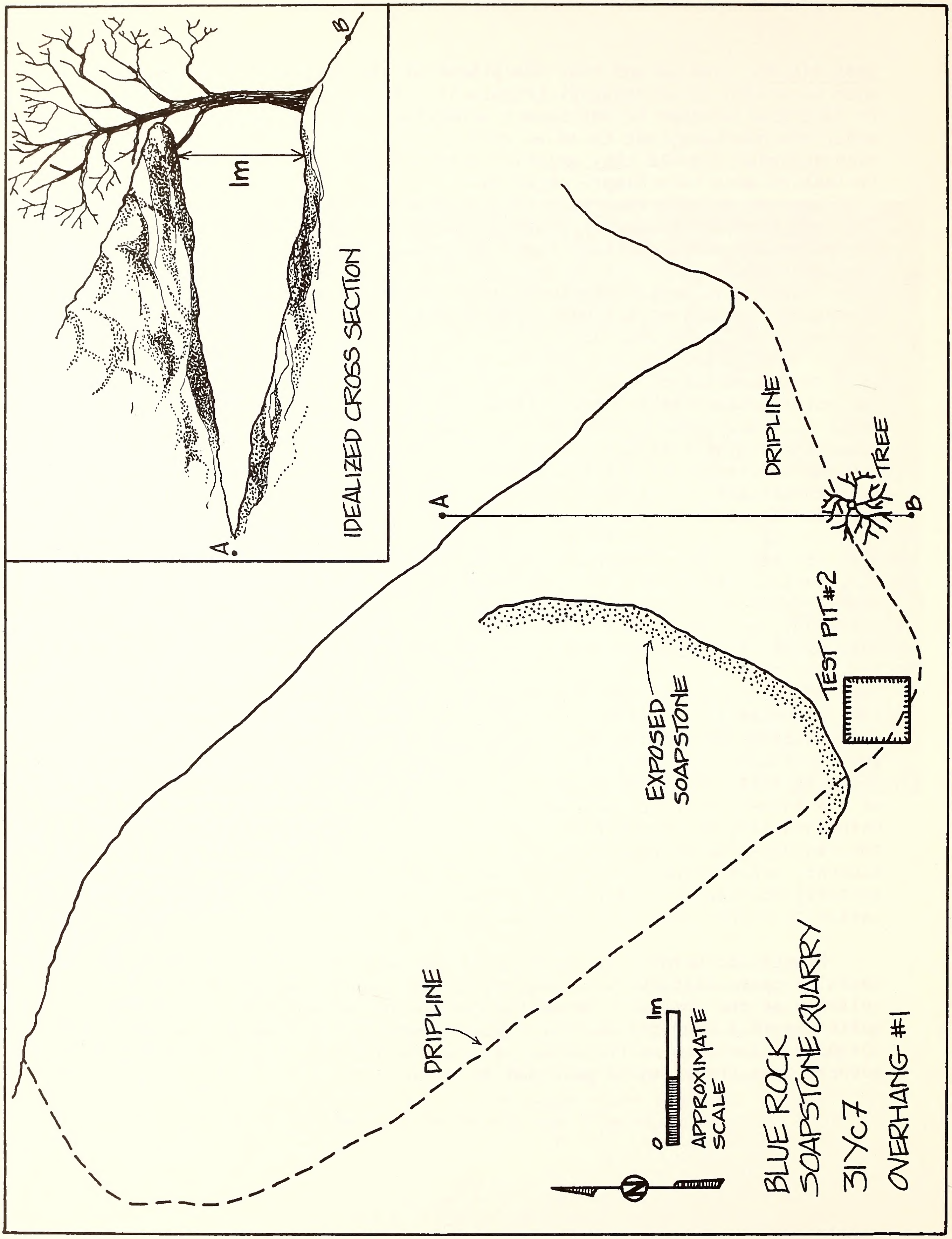


Figure 5. Overhang #1, Blue Rock Soapstone Quarry (31Yc7).

ARTIFACTS

Soapstone Artifacts. Only four soapstone bowl fragments were observed or collected at the site, two of which fit together as a single sherd. The paucity of bowl fragments is probably an indication of the intensity of collector activities at the site, particularly in light of the immense quantity of quarry debris and quarry tools.

The three bowls represented by the four fragments included one straight-sided, flat-bottomed rectangular or oval vessel, one round vessel (base), and one which could have been either shape. Given the roughness of its exterior, the rectangular or oval vessel appears to have been broken in a fairly early stage of production. The reduction technique suggested by the rough surface involved pecking with a sharp, pick-like implement. The rounded vessel base, recovered from test pit #2 (under the overhang), appears to have been broken in a slightly more advanced stage. Pecking scars are readily visible on portions of the interior. The two fitted fragments, finally, represent a vessel which was broken during the latter stages of production. All scars of the earlier stage pecking have been scraped smooth. Striations from a sharp, flat or slightly convex-edged tool are visible on both wall surfaces.

Non-soapstone Lithic Artifacts. A total of 112 non-soapstone lithic artifacts were collected at the quarry site, including 17 from test pit #1, 37 from test pit #2, and 58 from the site surface (Appendix B). The surface materials were recovered primarily from the bulldozed area on the west side of the soapstone outcrop. A "grab" or "select" sampling technique was used for the surface collections, with the exception of one of the apparent tool caches, which was collected completely.

At least 37 of the artifacts can be identified as quarry tools or portions thereof. All of these tools were manufactured on well-rounded cobbles, presumably transported to the site from the South Toe River. Twenty-one (21) of the tools appear to have functioned as a kind of "pick," and are characterized by the presence of a 3- or 4-sided pyramidal shaped point at one end of a fist-sized, ovoid-shaped cobble (Figures 6a and 6b). The point or bit was produced by the removal of two or three primary flakes, frequently retaining a portion of the cortical surface of the cobble as one side of the pyramidal-shaped bit. The presence of multiple smaller flake scars around the bit of some of the tools suggests either platform preparation for the primary flake removal or, more likely, utilization and recycling of the tools. All of the tools appear to have been used. Four of the "picks" have two bits, one at each end of the cobble. Battering on the poll end of several suggests the occasional use of hammers in conjunction with the "picks." Four tools appear to be exhausted "picks"; severe battering on the bits also suggests reuse as hammerstones (e.g., Figure 6c).

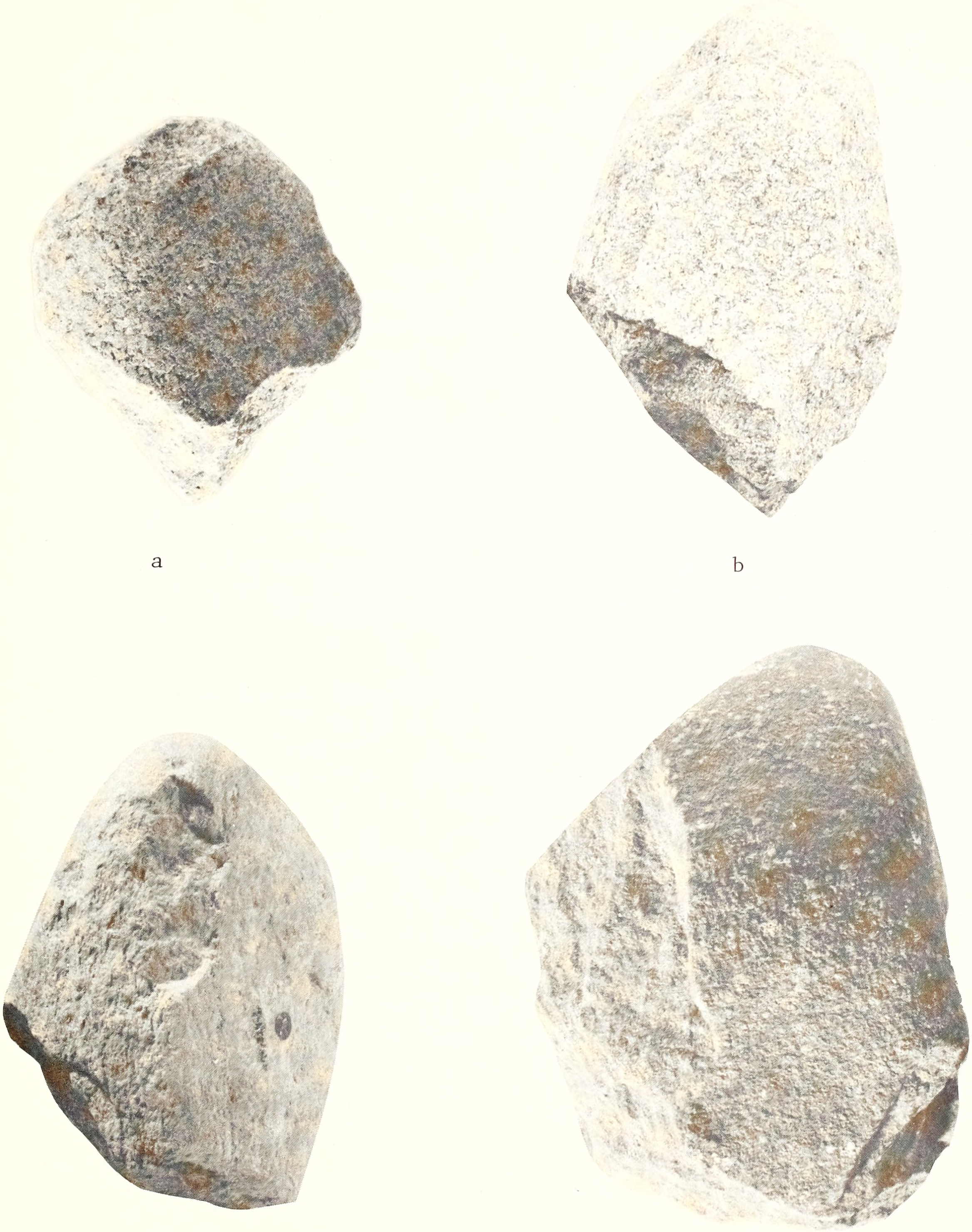
Four tools resemble crude choppers (Figure 6d). The single working edge of these tools was bifacially worked. As with the "picks," the cortical surface was retained as natural backing. Four other tools may have functioned as choppers, "picks," or heavy-duty scrapers or adzes. These tools were either bifacially or unifacially modified to produce a relatively broad and slightly convex working edge, and may have been used for rough shaping of the soapstone vessles. Neither these tools nor any of the "picks" show signs of having been hafted, although the possibility of such cannot be discounted.

Of the remaining four tools, one is a blade-like, unifacially worked scraper or knife, and three are either wedges, chisels, or crude scrapers. The latter specimens show signs of utilization, but differ in form from any of the other groups noted above. Such tools may have been used for any number of quarrying or raw material reduction activities.

Three unmodified, split cobbles were also collected. These may represent abortive attempts at "pick" manufacture or simply tool blanks or preforms. All three were found in the apparent tool cache (#1) in the bulldozed area. The remainder of the non-soapstone lithic artifact collection consisted of flakes, chunks, and miscellaneous debitage (see Appendix B).

One brown chert interior flake was collected, representing the only truly "exotic" raw material type noted at the site. The bulk of the tools (68%) were made fron gneiss cobbles, including hornblende gneiss (30%), micaceous gneiss (16%), and granitic gneiss (22%). Quartz and quartzite cobbles were used for eight of the tools (22%), and amphibolite for four (10%). Quartz and quartzite artifacts, including tools and debitage, are numerically more abundant than the other materials, representing over 56% of the collection, but constitute only about 19% of the total artifact weight.

Overall, the lithic assemblage at the quarry site appears technologically simple and crude. However, the tools, and particularly the "picks," are clearly specialized implements which have few counterparts or parallels at non-soapstone quarry sites. The assemblage represents a component of aboriginal lithic technology and material culture which is at present only poorly known or understood, yet it is a component which functioned as a significant aspect of many late pre-ceramic, and probably even early ceramic-using societies in the Eastern United States.



a b c d

Figure 6. Examples of quarry tools from the Blue Rock Soapstone Quarry (approx. ½ scale).

PREHISTORIC UTILIZATION OF THE BLUE ROCK SOAPSTONE QUARRY

Prehistoric exploitation of the Blue Rock soapstone was probably centered around the production of bowls. Raw material for other items, such as ear plugs or pipes, may have been procured at the site, though evidence for such is presently lacking and would probably not have resulted in noticeable scars on the outcrop surface. Smaller items could have been produced from the quarry debris and aborted bowl debitage. Although several techniques were probably used to extract the soapstone for bowl production, many of which have been discussed by Holmes (1890; 1897), Bushnell (1926), Ferguson (1979), and Dickens and Carnes (1977), one technique in particular was clearly apparent at the Blue Rock quarry. Figure 7 illustrates the extraction process involving this technique, as reconstructed from the information gathered from test pit #1. This technique, as discussed below, appears to have been used in the production of many of the cut out scars observed at the site.

Isolated cut outs are rare on the outcrop, and where they do occur, the depression is only slight. This suggests that the bowl preform/blank associated with the cut out probably occurred naturally as a prominent knob or projection of the soapstone outcrop and was therefore relatively easily detached. More often, however, the cut outs occur in overlapping or intersecting clusters, indicating that the scar resulting from one bowl quarrying episode served as the initial working surface for subsequent episodes. A parallel to this would be platform preparation in flintknapping.

Working from an earlier cut out, a groove was excavated to encircle the desired size and shape of the target bowl preform/blank. The "picks" may have been the most commonly used tool for this, though hafted axes may also have been used. The two 3/4-grooved axes observed in the private collection were both essentially exhausted tools, having been battered and reworked nearly to the hafting groove. Such wear would undoubtedly occur rather quickly if used to chop out soapstone bowls, even though soapstone is a relatively soft material. The cost effectiveness of such a practice, given the time required to manufacture grooved polished axes, is questionable and may have been the exception rather than the quarrying rule.

The groove in the soapstone was excavated by chopping or pecking around and under the desired amount of material, such that the preform/blank stood free from the soapstone matrix save for a connecting pedestal. The preform/blank was then snapped from the pedestal, probably with the aid of a wedge or lever. The chunk of quartz lodged under the pedestal in the cut out in test pit #1 may have served as a wedge, having been hammered into the quarry groove, causing the preform/blank to break free.

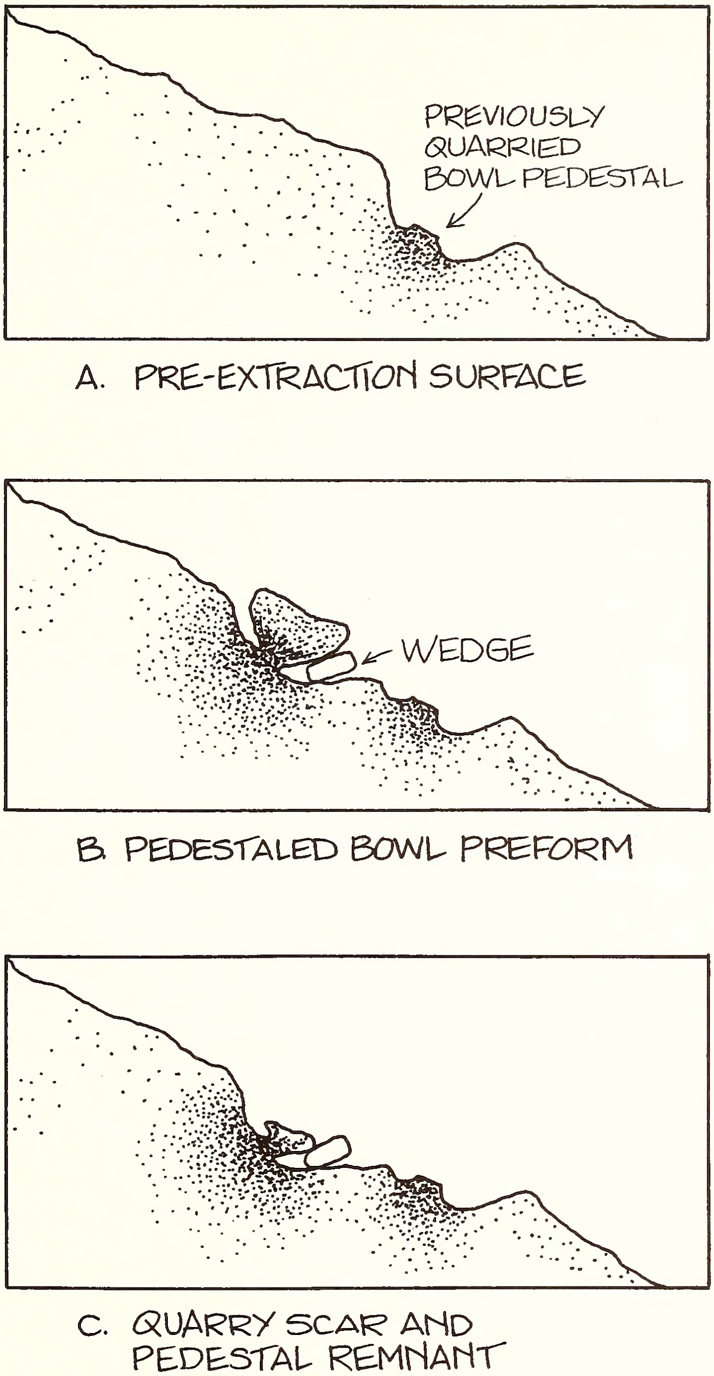


Figure 7. Hypothesized soapstone bowl quarrying stages, Blue Rock Soapstone Quarry (31Yc7).

Remnant pedestal sizes vary significantly in the cut outs at Blue Rock. Whether this is due to variations in the quarrying technique, desired bowl size, or mere chance, augmented by impurities in the soapstone itself, is difficult to say.

Reduction of the preform/blank, and particularly the hollowing out of the interior, probably did not occur before removal from the parent matrix, since this would have increased the potential for breakage during the wedging or dislodging process. It appears, however, that all stages of reduction did occur at the quarry site. As noted previously, fragments of bowls roughly shaped by pecking and of bowls with smoothly scraped surfaces were collected. Bowls at or near a finished stage of production were also observed in the private collection from the site. Given the size of the outcrop and the number of visible cut outs, it is assumed that many more bowls and fragments were present at one time, but have been carried off by local collectors over the years.

The available natural shelter at the Blue Rock quarry must have been a most appreciated and attractive feature. Though there is no firm indication of the duration of any of the occupations of the larger shelter, it is evident from the small test pit that bowl reduction was performed underneath, and that at least one fire was probably burned at one time. Evidence of food preparation or other activities was not recovered from the test.

As mentioned previously, one of the significant discoveries at the site was the evidence of tool caching. Tool caches occur at other types of prehistoric quarries (c.f. Baker 1974; Ives 1975), and can probably be expected at soapstone quarries. The discovery of such caches without fairly extensive and intensive investigation around the soapstone outcrops or boulders, however, will likely be a rare occurrence. The caches at the Blue Rock quarry were identified solely because of the actions of the bulldozer on the west side of the outcrop. At least three caches, and probably many others, were truncated when the bulldozer cut off the surface cover. It appears that several caches may have been thoroughly scattered in the process, as indicated by the dispersed concentrations of tools in the cleared area. In three instances, however, the tools were still tightly clustered (e.g., Figure 3). All of the visible materials in one of the apparent caches (#1) and all of the tools from another (#2) were collected (see Appendix B). Included in cache #1 were 15 "picks," three "pick" fragments, one blade-like knife or side scraper, two split cobbles (possible tool blanks), eight large cobble fragments, and one amorphous chunk of quartz. Whether this is a typical quarrying tool kit or not remains to be seen. It is quite possible that the typical tool kit also contained bone or deer antler tools. Discovery and investigation of undisturbed caches would be necessary to determine the full tool kit inventory.

CONCLUSIONS

In North Carolina, the procurement/quarrying component of Late Archaic-Early Woodland soapstone utilization has received little intensive research attention, in spite of the frequency of occurrence of both soapstone deposits and artifacts. Within the archaeological context of the State, then, the Blue Rock quarry must presently be considered to have at least statewide significance. As other quarry sites are discovered, this status may change. For the moment, however, it remains a relatively unique and rare archaeological entity. When compared with quarries reported from other states, such as South Carolina, Georgia, and Virginia, the Blue Rock site stands out as the only <u>known</u> site with an associated rock shelter. The cultural deposits contained in the shelter have decided potential for providing a broad range of limited activity site information, in addition to information about soapstone bowl reduction sequences.

In addition to the shelters, tool caches per se have not been reported from other sites (to the author's knowledge), though they probably occur at many. One possible explanation for the lack of reported caches thus far is that investigators simply have not looked in the right places. Excavations performed adjacent to soapstone exposures will probably not encounter caches, since caches at such locations would have been more susceptible to discovery by other quarry workers. If it is assumed that caching is a practice engaged in at least partially to protect valued items from expropriation by others, it would follow that the caches would be placed in areas not likely to be discovered, accidentally or otherwise. The visible caches at the Blue rock quarry are located away from the outcrop, i.e., away from likely quarrying spots.

At present, the full extent of the Blue Rock deposit and associated cultural features is unknown. The limited investigations conducted at the site, however, indicate that substantial potential exists for information relevant to questions concerning prehistoric (and possibly historic) soapstone exploitation and utilization. Future research at the site should attempt to document not only the extent of the deposits (natural and cultural), but also the presence/absence of other deposits in the immediate area. The geological literature combined with information provided by area residents points to the fact that many sites similar to Blue Rock probably exist in the immediate vicinity. Whether these other deposits contain similar cultural associations, or even still exist, given the extent of the mining activities in the region, remains to be seen. Until additional survey is undertaken in the region, the Blue Rock site must be considered an important resource which warrants both preservation and scientific investigation.

Note: Since this report was written, in 1980, John Dewert (1982) has reported the occurrence of several additional soapstone quarries in the vicinity of Blue Rock.

APPENDIX A

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APPENDIX B

BLUE ROCK ARTIFACT COLLECTION

Test Pit #1

		Wt. (grams)
(1)	Chunk (wedge), quartz	(not collected)
(1)	Chunk (poss. tool fragment), quartz	222.1
(14)	Miscellaneous debitage, quartz	42.1
(2)	Cobble fragments, micaceous gneiss	56.7

Test Pit #2

Level 1 (0-5cm)

(1)	Miscellaneous debitage, quartz	.9
(1)	Miscellaneous debitage, hornblende gneiss	4.5
	Soapstone quarry/fall debris (sample)	-

Level 2 (5-15cm)

(1)	Chunk, quartz	21.6
(3)	Flakes, quartz	1.9
(3)	Miscellaneous debitage, quartz	.7
(2)	Cobble fragments, quartz	31.0
(1)	Chunk, hornblende gneiss	20.3
(1)	Chlorite crystal	4.2
	Charcoal	.1
	Soapstone quarry/fall debris (sample)	-

Level 3 (15-25cm)

(3)	Chunks, quartz	77.2
(1)	Chunk (poss. tool), quartz	594.7
(3)	Flakes, quartz	22.2
(1)	Quarry tool, granitic gneiss	705.2
(1)	Soapstone bowl fragment (base)	2000.0+
	Charcoal	8.7
	Soapstone quarry/fall debris (sample)	-

Level 4 (25-35cm)

(11)	Miscellaneous debitage, quartz	26.1
(1)	cobble fragment, quartz	.4
(4)	Miscellaneous debitage, hornblende gneiss	9.1
(1)	Cobble fragment, hornblende gneiss	6.1
	Charcoal	1.2
	Soapstone quarry/fall debris (sample)	-

General Surface (Select collection)

		Wt. (grams)
(1)	Flake, brown chert	1.4
(1)	Cobble fragment, granitic gneiss	44.6
(1)	Quarry tool, quartz	570.8
(1)	Quarry tool, granitic gneiss	311.3
(1)	Quarry tool fragment, granitic gneiss	239.2
(1)	Quarry tool, micaceous gneiss	333.3
(2)	Quarry tools, hornblende gneiss	721.0
(2)	Quarry tools, amphibolite	1692.9
(3)	Soapstone bowl fragments	1500.0+

Tool Cache #1 (Total surface collection)

(1)	Chunk, quartz	74.6
(4)	Cobble fragments, quartz	613.1
(1)	Cobble fragment, granitic gneiss	165.1
(1)	Cobble fragment, micaceous gneiss	86.3
(1)	Cobble fragment, hornblende gneiss	110.6
(1)	Cobble fragment, amphibolite	103.9
(2)	Split cobbles, granitic gneiss	1248.1
(1)	Quarry tool fragment, quartz	287.3
(3)	Quarry tools, quartz	1548.6
(1)	Quarry tool fragment, hornblende gneiss	175.5
(5)	Quarry tools, hornblende gneiss	2250.2
(1)	Quarry tool fragment, granitic gneiss	176.7
(3)	Quarry tools, granitic gneiss	1323.4
(3)	Quarry tools, micaceous gneiss	1591.0
(1)	Quarry tool, amphibolite	556.6
(1)	Knife/scraper, quartzite	70.7

Tool Cache #2 (Select collection)

(1)	Chunk (poss. quarry tool), gneiss	269.2
(2)	Quarry tools, quartz	664.3
(3)	Quarry tools, hornblende gneiss	1596.4
(2)	Quarry tools, micaceous gneiss	939.7
(1)	Quarry tool, granitic gneiss	481.6
(1)	Quarry tool, amphibolite	320.3

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